19 inch TFT WXGA LCD Colour Monitor

Chassis: HUDSON7

Service
Service
Service

190CW7CS/00
190CW7CS/27
190CW7CS/69
190CW7CS/75
190CW7CS/93
190CW7CS/96
190CW7CB/69
190CW7CB/93
190WV7CS/00

ENERGY STAR

Service Manual

Horizontal frequencies
30 - 83 kHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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飞利浦 PHILIPS PHILIPS

Important Safety Notice

Proper service and repair isimportant to the safe, reliable operation of all HPConsumer Electronics Company** Equipment. The service procedures recommended by HP and described in this service manual are effective methods of performing service operations. Some ofthese service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. HP could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, HP has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by HP must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

* * Hereafter throughout this manual, HP Consumer Electronics Company will bereferred to as HP.

WARNING

Critical components having special safety characteristics are identified with a bythe Ref. No. inthe parts list and enclosed within a broken line*
(where several critical components are grouped in one area) along with the safety symbol on the schematics or exploded views.
Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.
Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

* Broken Line

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit

- Must mount the moduleusing mounting holes arranged infour corners.
- Do not press onthe panel, edge of theframe strongly or electric shock as this will result in damage to the screen.
- Do not scratch orpress on the panel withany sharp objects, such as pencil or pen asthis may result in damage to the panel.
- Protect the module fromthe ESD as it maydamage the electronic circuit (C-MOS).
- Make certain that treatment person s body are grounded through wrist band.
- Do not leave themodule in high temperature andin areas of high humidity for a long time.
- Avoid contact with water as it may ashort circuit within the module.
- If the surface ofpanel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

LCD panel

Type NR.	: M190A1
Outside dimensions	: 427.2(w)*277.4(h)*17.0(d) (Typ) mm
Pitch (mm)	: 0.285 mm x 0.285 mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.2M colors (6 bits+FRC)
Backlight	: CCFL edge light system
Active area(WxH)	: 410.4 x 256.5mm (19.05" diagonal)
View angle (CR>10)	: 75/75 (min), 85/85 (typ) for Horizontal & 70/70 (min), 80/80 (typ) for Vertical
Contrast ratio	: 850:1(Typ.) 500:1(Min.)
White luminance	: Original color 230 nits (Min), 300 nits (Typ.)
Response time	: 5ms (typ)
Scanning frequencies	
Hor.	: 30 - 83 K Hz
Ver.	: 55 - 75Hz
Video dot rate	: <140 MHz
Power input	: 90-264 V AC, 50/60 ± 2 Hz
Power consumption	: < 36W(typ.) ~~maximum~~
Ambient temperature	: 0 °C - 35 °C

Power input connection

Power cord length : 1.8 M

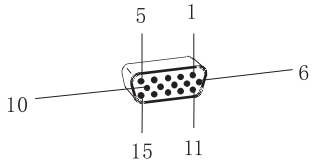
Power cord type : 3 leads power cord with protective earth plug.

Power management

The monitor must comply with the Microsoft On Now specification, with two power management states, as defined by the VESA DPMS document. The monitor must appropriately display the DPMS state.

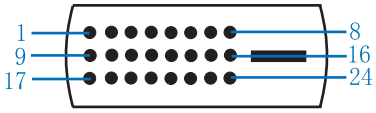
Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	< 36 W(typ..) ~~34 W (typ.)~~	Green LED	--
Off	Off	Off	blanked	< 1 W	Amber LED	< 3 s
DC Power Off			N/A	< 1 W	LED Off	

Pin Assignment



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	DDC +3.3V OR +5V
2	Green video input	10	GND
3	Blue video input	11	GND
4	GND	12	Serial data line (SDA)
5	Cable detect	13	H-sync
6	Red video GND	14	V-sync
7	Green video GND	15	Data clock line (SCL)
8	Blue video GND		

Input DVI-D connector pin



Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V) - Cable detect
16	Hot plug detect
17	T.M.D.S. data0-
18	T.M.D.S. data0+
19	T.M.D.S. data0 shield
20	No Connect
21	No Connect
22	T.M.D.S clock shield
23	T.M.D.S. clock+
24	T.M.D.S. clock-

Susceptibility of display to external environment

Operating

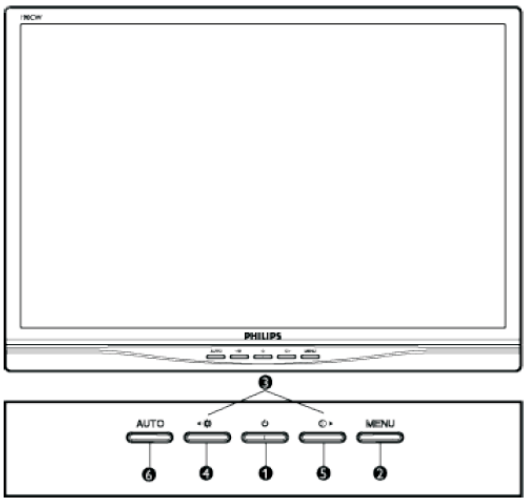
- Temperature : 0 to 40 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage

- Temperature : -20 to 60 degree C
- Humidity : 95% max
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

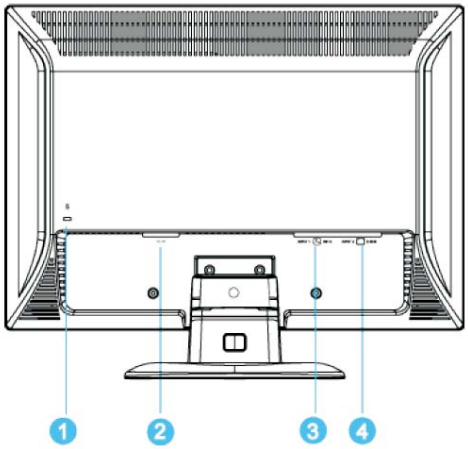
Installation

Front View



1		To switch monitor's power On and Off
2	MENU	To access OSD menu/ to confirm
3	< >	To move the adjust
4		To adjust brightness of the display
5		To adjust contrast of the display
6	AUTO	Automatically adjust the horizontal position, vertical position, phase and clock setting

Rear View



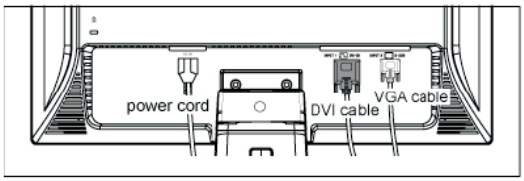
1 Kensington anti-thief lock
2 AC power input
3 DVI-D input
4 VGA input

Accessory Pack

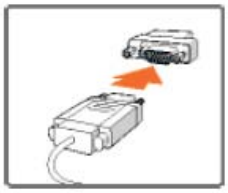
Item	Description
	Power cord
	VGA signal cable
	EDFU pack

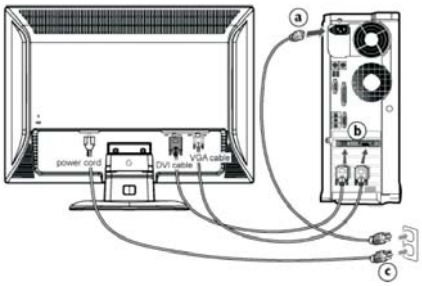
Connecting to Your PC

1) Connect the power cord to the back of the monitor firmly.



Notes:If you use an Apple Macintosh™, you need to connect the special Mac adapter to one end of the monitor signal cable.





2) Connect to PC

(a) Turn off your computer and unplug its power cable.
(b) Connect the monitor signal cable to the video connector on the back of your computer.
(c) Plug the power cord of your computer and your monitor into a nearby outlet.
(d) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

Troubleshooting

This page deals with problems that can be corrected by a user. If the problem still persists after you have tried thesesolutions, contact Philips customer service representative.

Common Problems	
Having this problem	Check these items
No Picture (Power LED not lit)	1.Make sure the power cord is plugged into the power outlet and into the back of the monitor. 2.First, ensure that the power button on the front of the monitor is in the OFF position, then press it to the ON position.
No Picture (Power LED is amber or yellow)	1.Make sure the computer is turned on. 2. Make sure the signal cable is properly connected to your computer. 3.Check to see if the monitor cable has bent pins. 4.The Energy Saving feature may be activated
Screen says ATTENTION CHECK CABLE CONNECTION	1. Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide). 2.Check to see if the monitor cable has bent pins. 3. Make sure the computer is turned on.
AUTO button not working properly	1.The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows. 2. It may not work properly if using nonstandard PC or video card.
Imaging Problems	
Display position is incorrect	1.Press the Auto button. 2. Adjust the image position using the Horizontal Position and/or Vertical Position in OSD Main Controls.
Image vibrates on the screen	Check that the signal cable is properly connected to the graphics board or PC.
Vertical flicker appears 	1. Press the Auto button. 2. Eliminate the vertical bars using the More Settings of Phase/Clock in OSD Main Controls.
Horizontal flicker appears 	1. Press the Auto button. 2. Eliminate the vertical bars using the More Settings of Phase/Clock in OSD Main Controls.
The screen is too bright or too dark	Adjust the contrast and brightness on OSD Main Controls. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer).
An after-image appears	If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an afterimage. This usually disappears after a few hours.
An after-image remains after the power has been turned off.	This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a peroid of time.
Green, red, blue, dark, and white dots Remains	The remaining dots are normal characteristic of the liquid crystal used in today's technology.

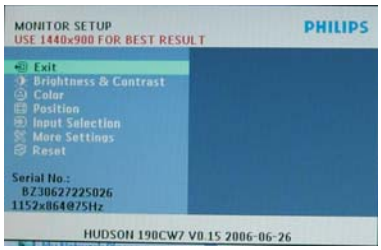
On Screen Display

Description of the On Screen Display

This is a feature in all Philips LCD monitors. It allows an end user to adjust screen performance of the monitors directly through an on-screen instruction window. The user interface provides userfriendliness and ease-of-use when operating the monitor.

Basic and simple instruction on the control keys.

When you press "menu" button on the front control of your monitor, the On-Screen Display (OSD) Main Controls window will pop up and you can then start making adjustments to your monitor's various features. Use the ◀▶ keys to make your adjustments.



The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.

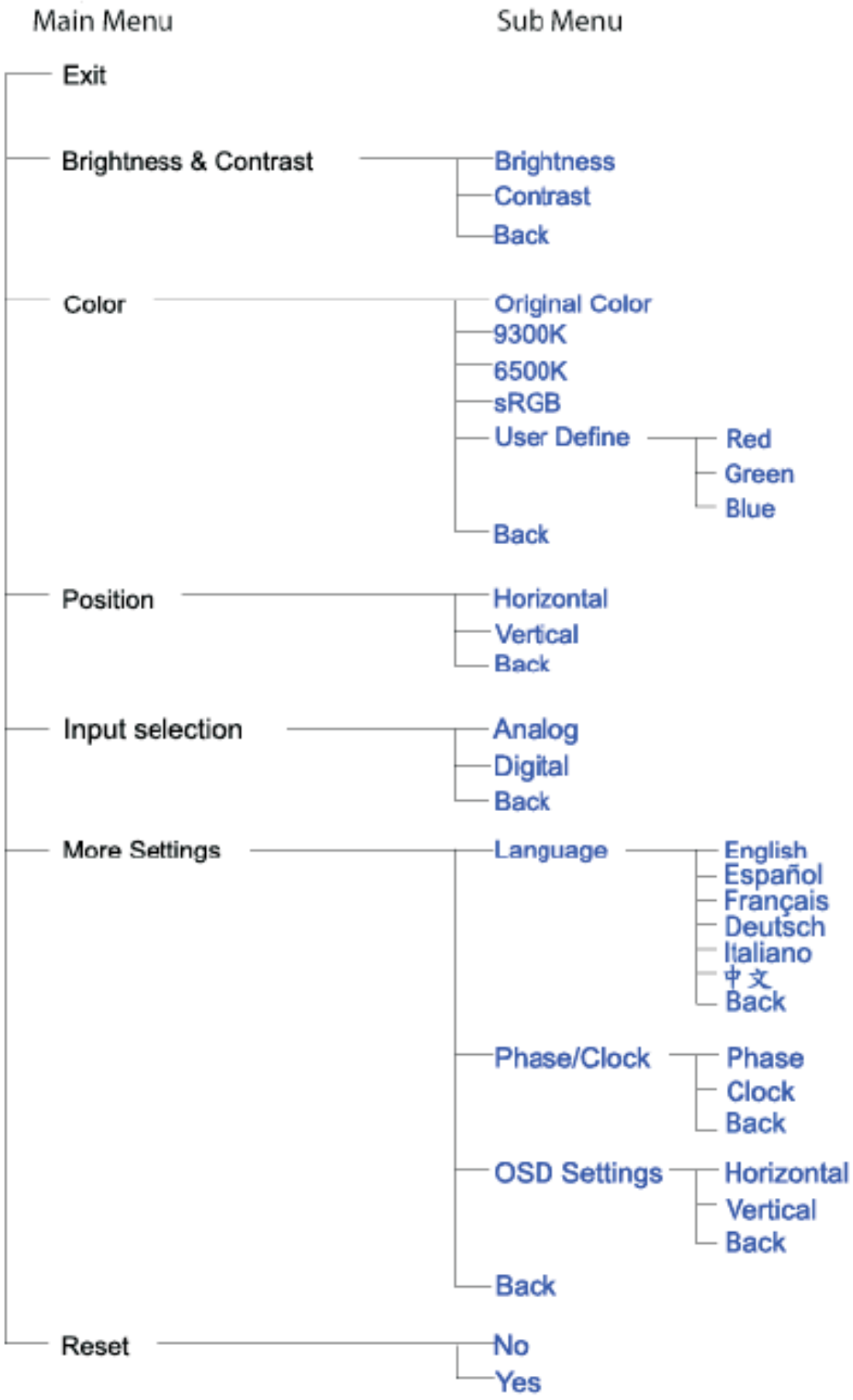
Only available for Europe Model

Main Menu	Sub Menu		
Exit			
Brightness & Contrast	Brightness		
	Contrast		
	Back		
Color	Original Color		
	9300K		
	6500K		
	sRGB		
	User Define	Red	
		Green	
		Blue	
	Back		
Position	Horizontal		
	Vertical		
	Back		
Input selection	Analog		
	Digital		
	Back		
More Settings	Language	English	
		Español	
		Français	
		Deutsch	
		Italiano	
		Русский	
		Back	
	Phase/Clock	Phase	
		Clock	
		Back	
	OSD Settings	Horizontal	
		Vertical	
		Back	
	Back		
Reset	No		
	Yes		

Only available for Nafta Model

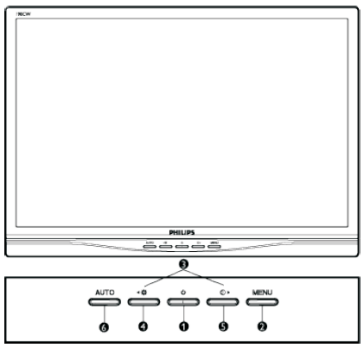
Main Menu	Sub Menu		
Exit			
Brightness & Contrast	Brightness		
	Contrast		
	Back		
Color	Original Color		
	9300K		
	6500K		
	sRGB		
	User Define	Red	
		Green	
		Blue	
	Back		
Position	Horizontal		
	Vertical		
	Back		
Input selection	Analog		
	Digital		
	Back		
More Settings	Language	English	
		Español	
		Français	
		Português	
		中文	
		Back	
	Phase/Clock	Phase	
		Clock	
		Back	
	OSD Settings	Horizontal	
		Vertical	
		Back	
	Back		
Reset	No		
	Yes		

Only available for Asia Pacific Model



Lock/Unlock,Aging,Factory Mode

Front Control



To Lock/Unlock OSD FUNCTION(User Mode)

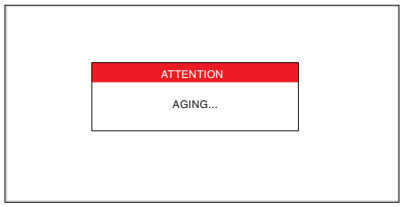
The OSD function can be locked by pressing"OK"button(1) for more than 10 seconds, the screen shows following windows for 4 seconds. Everytime when you press"OK" button, this message appears on the screen automatically.

Unlock OSD function

Unlocked OSD function can be released by pressing "OK" button for more than 10 seconds again.

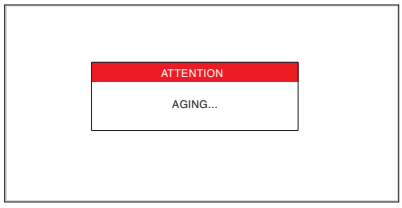
Access Aging Mode

Step 1 : Disconnect Interface Cable between Monitor and PC.
Step 2 : Turn off LCD monitor.Then [Push "AUTO" & " MENU " buttons at the same time and hold them]+[Press power " ⏻ " button untill comes out " AGING screen"] => then release all buttons.
Bring up:



After 15 seconds, bring up:

After 15 seconds, bring up:

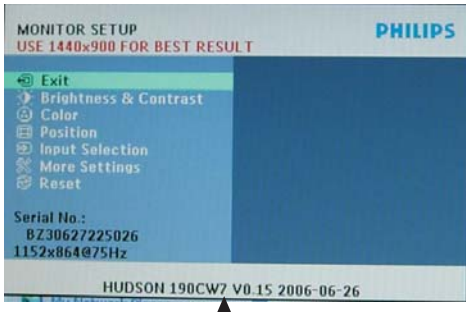


After 15 seconds, bring up:

---
repeatly
Connect Signal cable again=> go back to normal display

Access Factory Mode

1). Turn off monitor.
2). [Push "AUTO" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"] => then release all buttons
3).Press "MENU" button, wait until the OSD menu with Characters "HUDSON 190CW7 V0.15 2006-06-26" (below OSD menu) come on the Screen of the monitor.



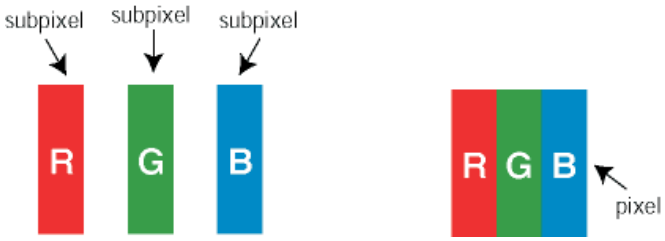
Factory Mode indicator

Factory Menu
Cursor can move on gray color area
Hot key function: by pressing " LEFT " and " RIGHT " key Simultaneously at User Mode (or Factory Mode)
(PS: The Offset R G B function can be used on reduce or eliminate snowy noise on the background when the resolution of video signal is 1440*900 vertical 60Hz. Slightly increase or decrease the value until snowy noise completely disappear.

Philips Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 15" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide.



Pixels and Sub pixels

A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a single black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colors.

Types of Pixel Defects

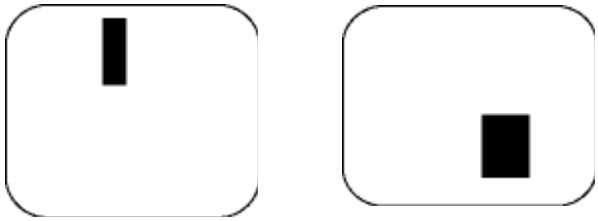
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category. Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. These are the types of bright dot defects:

One lit red, green or blue sub pixel

Two adjacent lit sub pixels:
- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)

Three adjacent lit sub pixels (one white pixel)

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off'. These are the types of black dot defects:



One dark sub pixel

Two or three adjacent dark sub pixels

Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190CW7
1 lit subpixel	3 or fewer
2 adjacent lit subpixels	1 or fewer
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	25mm or more
Total bright dot defects of all types	3 or fewer

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190CW7
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels(one white pixel)	0
Distance between two black dot defects*	15 mm or more
Total black dot defects of all types	5 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190CW7
Total bright or black dot defects of all types	5 or fewer

Note:

* 1 or 2 adjacent sub pixel defects = 1 dot defect

Mechanical Instruction

Front view

Fig.1

Back view

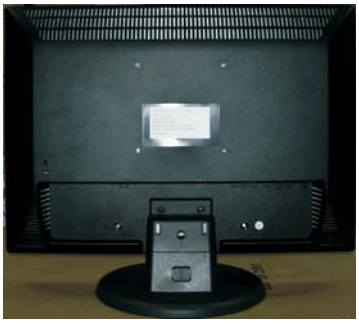


Fig.2

1. Remove the base.

a: Place the monitor face down on a smooth surface as Fig.3. Be carefully to prevent the scratch and injury during the uninstallation. Press the botton and push the base as Fig.3.

Fig.3

b: Drag the click to left and slip the stand bottom to left at the same time as Fig.4.

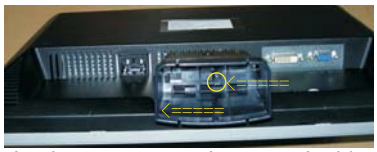


Fig.4

c: Remove the three screws and remove the hinge and stand top as Fig.5.

Fig.5

2: Remove the Back Cover Assy
   a. Unscrew 1 screws as shown in Fig.6.
   b. Open 10 clicks on right and left side as shown in Fig.7 and Fig.8.
   c. Open 7 clicks on bottom side as shown in Fig.9.
   d. Open 7 clicks on top side as shown in Fig.10.
   e. Remove the BACK COVER ASSY in Fig.11.

Fig.6

Fig.7

Fig.8

Fig.9

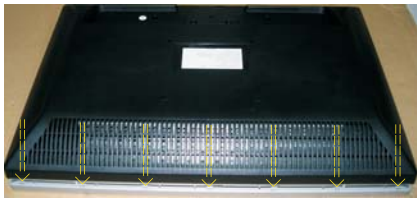


Fig.10

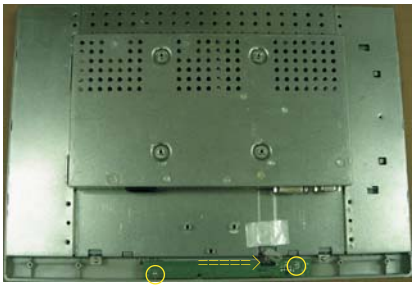


Fig.11

3. Remove the Key board and bezel.
   a. Unscrew the 2 screws and disconnect the 1 cable to remove the Key board as Fig.11.
   b. Unscrew the 2 screws to remove the bezel as Fig. 12.

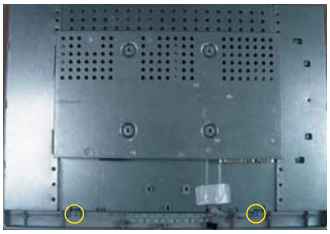


Fig.12

4. Remove the SHIELDING ASSY , Scaler , Power board.
   a. Unscrew the 4 screws on left and right side as Fig.13~14.
   b. Disconnect the 1 cable carefully and turn the SHIELDING ASSY to right as Fig.15~16.
   c. Unscrew the 14 screws to remove the SHIELDING ASSY as Fig. 17~18.
   d. Disconnect the 4 cables to remove the Scaler and Power board.

Fig.13

Fig.14

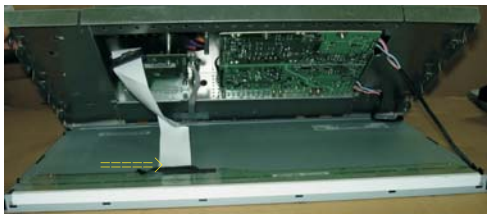


Fig.15

Fig. 16

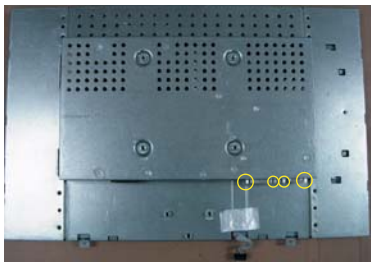


Fig. 17

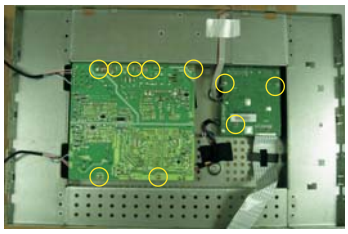


Fig. 18

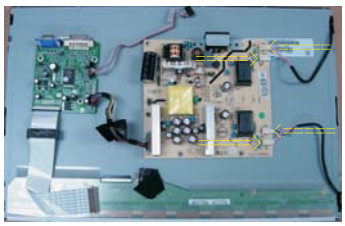


Fig. 19

Fig. 20

****
In warranty, it is not allowed to disassembly the LCD panel, even the backlight unit defect.

Out of warranty, the replacment of backlight unit is a correct way when the defect is cused by backlight (CCFL,Lamp).
****

Color Adjustment

Alignment procedure
1. Turn on the LCD monitor.
2.Turn on the Timing/pattern generator. See Fig.1
3. Preset LCD color Analyzer CA-110
-Remove the lens protective cover of probe CA-A30.
-Set measuring/viewing selector to measuring position for reset analyzer.(zero calibration) as Fig.2
- Turn on the color analyzer (CA-110)
-Press 0-CAL button to starting reset analyzer.

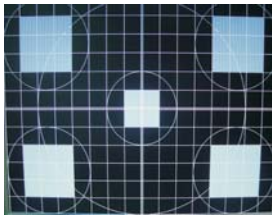


Fig. 1

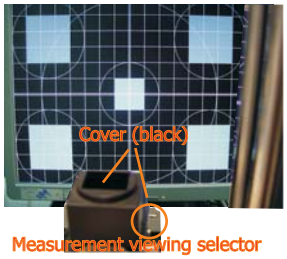


Fig. 2

4. Access Factory Mode

1). Turn off monitor.
2). [Push "AUTO" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"]
=> then release all buttons
3).Press "MENU" button, wait until the OSD menu with Characters" HUDSON 190CW7 V0.15 2006-06-26" (below OSD menu) come on the Screen of the monitor. as shown in Fig3.

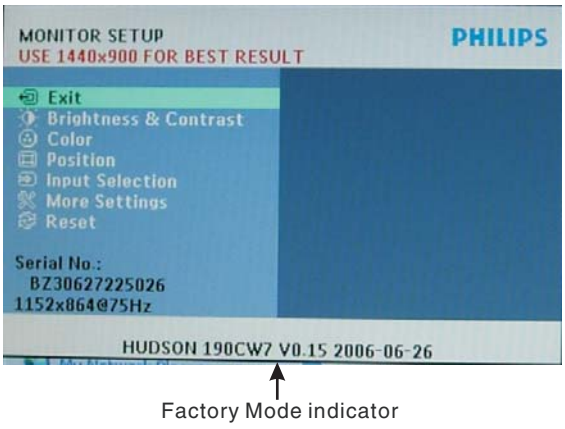


Fig. 3

4). Press "MENU" button, then select factory mode indicator by"LEFT" or "RIGHT" button .Press"MENU" button to bring up submenu windows as below:

Fig. 4

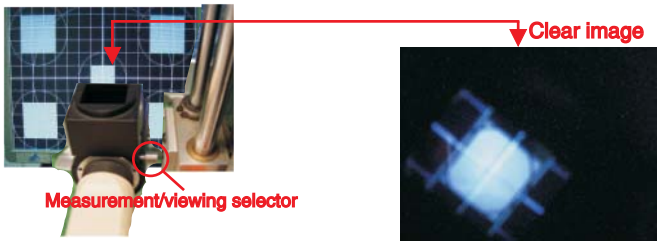


Fig.5

5.Display
Press "LEFT" or "RIGHT" button to select . Change the value by "LEFT" or "RIGHT" key until the X,Y co-ordinates as below

5.1 White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB. Apply full white pattern, with brightness in 100 % position and the contrast control at 50 % position.
The 1931 CIE Chromaticity (color triangle) diagram (x,y) coordinate for the screen center should be:

Product spec.

9300K CIE coordinates	X = 0.283 ± 0.02 Y = 0.297 ± 0.02
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.02 Y = 0.329 ± 0.02
sRGB CIE coordinates	X = 0.313 ± 0.02 Y = 0.329 ± 0.02

Production alignment spec.

9300K CIE coordinates	X = 0.283 ± 0.005 Y = 0.297 ± 0.005
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.005 Y = 0.329 ± 0.005
sRGB CIE coordinates	X = 0.313 ± 0.005 Y = 0.329 ± 0.005

Quality Inspection spec.

9300K CIE coordinates	X = 0.283 ± 0.015 Y = 0.297 ± 0.015
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.015 Y = 0.329 ± 0.015
sRGB CIE coordinates	X = 0.313 ± 0.015 Y = 0.329 ± 0.015

General FAQs

Q: When I install my monitor what should I do if the screen shows 'Cannot display this video mode'?
A: Recommended video mode for Philips 19 ": 1440 x 900 @60Hz.
1. Unplug all cables, then connect your PC to the monitor that you used previously.
2. In the Windows Start Menu, select Settings/Control Panel. In the Control Panel Window, select the Display icon. Inside the Display Control Panel, select the 'Settings' tab. Under the setting tab, in box labeled 'desktop area', move the slidebar to 1440 x 900 pixels (19").
3. Open 'Advanced Properties' and set the Refresh Rate to 60Hz, then click OK.
4. Restart your computer and repeat step 2 and 3 to verify that your PC is set at 1440 x 900@60Hz (19").
5. Shut down your computer, disconnect your old monitor and reconnect your Philips LCD monitor.
6. Turn on your monitor and then turn on your PC.

Q: What does 'refresh rate' mean in connection with an LCD monitor?
A: The refresh rate is of much less relevance for LCD monitors. LCD monitors display a stable, flicker-free image at 60Hz. There is no visible difference between 85Hz and 60Hz

Q: What are the .inf and .icm files on the CD-ROM? How do I install the drivers (.inf and . icm)?
A: These are the driver files for your monitor. Follow the instructions in your user manual to install the drivers. Your computer may ask you for monitor drivers (.inf and . icm files) or a driver disk when you first install your monitor. Follow the instructions to insert the (companion CD-ROM) included in this package. Monitor drivers (.inf and . icm files) will be installed automatically.

Q: How do I adjust the resolution?
A: Your video card/graphic driver and monitor together determine the available resolutions. You can select the desired resolution under Windows Control Panel with the "Display properties".

Q: What if I get lost when I am making monitor adjustments?
A: Simply press the MENU button, then select 'Reset' to recall all of the original factory settings.

Q: What is the Auto function?
A: The *AUTO adjustment* key restores the optimal screen position, phase and clock settings by pressing of a single button without the need to navigate through OSD (On Screen Display) menus and control keys.
Note: Auto function is available in selected models only.

Q: My Monitor has no power (Power LED does not light up). What should I do?
A: Make sure the AC power cord is connected between the monitor and AC outlet, and click a key on keyboard/mouse to wake up the PC.

Q: Will the LCD monitor accept an interlaced signal under PC models?
A: No. If an Interlace signal is used, the screen displays both odd and even horizontal scanning lines at the same time, thus distorting the picture.

Q: What does the Refresh Rate mean for LCD?
A: Unlike CRT display technology, in which the speed of the electron beam is swept from the top to the bottom of the screen determines flicker, an active matrix display uses an active element (TFT) to control each individual pixel and the refresh rate is therefore not really applicable to LCD technology.

Q: Will the LCD screen be resistant to scratches?
A: A protective coating is applied to the surface of the LCD, which is durable to a certain extent (approximately up to the hardness of a 2H pencil). In general, it is recommended that the panel surface is not subject to any excessive shocks or scratches.

Q: How should I clean the LCD surface?
A: For normal cleaning, use a clean, soft cloth. For extensive cleaning, please use isopropyl alcohol. Do not use other solvents such as ethyl alcohol, ethanol, acetone,hexane, etc.

Q:Can I change the color setting of my monitor?
A:Yes, you can change your color setting through OSD control as the following procedures,
1. Press "MENU" to show the OSD (On Screen Display) menu.
2. Press "Left Arrow" to select the option "color" then press "MENU" to enter color setting, there are five settings as below.
   a. 6500K; this setting features the panel closed to red-white color tone.
   b. 9300K; this setting features the panel closed to blue-white color tone.
   c. Original; this setting load the default panel setting in terms of color tone. (Note: different panel maker may feature a different color temperature*)
   d. User Define; the user can choose his/her preference color setting by adjusting red, green, blue color.
   e. sRGB; this is a standard setting for ensuring correct exchange of colors between different device (e.g. digital cameras, monitors, printers, scanners, etc.)

Q: Can the Philips LCD Monitor be mounted on the wall?
A: Yes. Philips LCD monitors have this optional feature. For standard VESA mount holes on the rear cover allows the user to mount the Philips monitor on most of the VESA standard arms or accessories. We recommend to contact your Philips sales representative for more information.

Screen Adjustments

Q: What is the FPadjust program on the CD-ROM?
A: The FPadjust program generates alignment patterns that help you adjust monitor settings such as Contrast, Brightness, Horizontal Position, Vertical Position, Phase and Clock for optimal performance.

Q: When I install my monitor, how do I get the best performance from the monitor?
A:1. For best performance, make sure your display settings are set at 1440 x 900@60Hz for 19". Note: You can check the current display settings by pressing the OSD MENU button once. The current display mode is shown in OSD first page.

2. To install the Flat Panel Adjust (FPadjust) program located on the monitor setup CD-ROM, open the CD-ROM and double-click the FP_setup4.3.exe icon. This will install FP Adjust automatically and place a shortcut on your desktop.
3. Run FPadjust by double clicking the shortcut. Follow the instructions step by step to optimize image performance with your system's video controller.

Q: How do LCDs compare to CRTs in terms of radiation?
A: Because LCDs do not use an electron gun, they do not generate the same amount of radiation at the screen surface.

Compatibility with other Peripherals

Q: Are Philips LCD monitors Plug-and-Play?
A: Yes, the monitors are Plug-and-Play compatible with Windows 95, 98, 2000 and XP.

Q: What is USB (Universal Serial Bus)?
A: Think of USB as a smart plug for PC peripherals. USB automatically determines resources (like driver software and bus bandwidth) required by peripherals. USB makes necessary resources available without user intervention. There are three main benefits of USB. USB eliminates "case anxiety," the fear of removing the computer case to install circuit board cards -- that often requires adjustment of complicated IRQ settings -- for add-on peripherals. USB does away with "port gridlock." Without USB,PCs are normally limited to one printer, two Com port devices (usually a mouse and modem), one Enhanced Parallel Port add-on (scanner or video camera, for example), and a joystick. More and more peripherals for multimedia computers come on the market every day. With USB, up to 127 devices can run simultaneously on one computer. USB permits "hot plug-in." No need to shut down, plug in, reboot and run set up to install peripherals. No need to go through the reverse process to unplug a device. Bottom line: USB transforms today's "Plug-and-Pray" into true Plug-and-Play! Please refer to glossary for more information about USB.

Q: What is a USB hub ?
A: A USB hub provides additional connections to the Universal Serial Bus. A hub's upstream port connects a hub to the host, usually a PC. Multiple downstream ports in a hub allows connection to another hub or device, such as a USB keyboard, camera or printer.

LCD Panel Technology

Q: What is a Liquid Crystal Display?
A: A Liquid Crystal Display (LCD) is an optical device that is commonly used to display ASCII characters and images on digital items such as watches, calculators, portable game consoles, etc. LCD is the technology used for displays in notebooks and other small computers. Like light-emitting diode and gas-plasma technologies, LCD allows displays to be much thinner than cathode ray tube(CRT) technology.LCD consumes much less power than LED and gas-displays because it works on the principle of blocking light rather than emitting it.

Q: What differentiates passive matrix LCDs from active matrix LCDs?
A: An LCD is made with either a passive matrix or an active matrix display grid. An active matrix has a transistor located at each pixel intersection, requiring less current to control the luminance of a pixel. For this reason, the current in an active matrix display can be switched on and off more frequently, improving the screen refresh time (your mouse pointer will appear to move more smoothly across the screen, for example). The passive matrix LCD has a grid of conductors with pixels located at each intersection in the grid.

Q: What are the advantages of TFT LCD compared with CRT?
A: In a CRT monitor, a gun shoots electrons and general light by colliding polarized electrons on fluorescent glass. Therefore, CRT monitors basically operate with an analog RGB signal. A TFT LCD monitor is a device that displays an input image by operating a liquid crystal panel. The TFT has a fundamentally different structure than a CRT: Each cell has an active matrix structure and independent active elements. A TFT LCD has two glass panels and the space between them is filled with liquid crystal. When each cell is connected with electrodes and impressed with voltage, the molecular structure of the liquid crystal is altered and controls the amount of inlet lighting to display images. A TFT LCD has several advantages over a CRT, since it can be very thin and no flickering occurs because it does not use the scanning method.

Q: Why is vertical frequency of 60Hz optimal for an LCD monitor?
A: Unlike a CDT monitor, the TFT LCD panel has a fixed resolution. For example, an XGA monitor has 1024x3 (R, G, B) x 768 pixels and a higher resolution may not be available without additional software processing. The panel is designed to optimize the display for a 65MHz dot clock, one of the standards for XGA displays. Since the

Q: What kind of wide-angle technology is available? How does it work?
A: The TFT LCD panel is an element that controls/displays the inlet of a backlight using the dual-refraction of a liquid crystal. Using the property that the projection of inlet light refracts toward the major axis of the liquid element, it controls the direction of inlet light and displays it. Since the refraction ratio of inlet light on liquid crystal varies with the inlet angle of the light, the viewing angle of a TFT is much narrower than that of a CDT. Usually, the viewing angle refers to the point where the contrast ration is 10. Many ways to widen the viewing angle are currently being developed and the most common approach is to use a wide viewing angle film, which widens the viewing angle by varying the refraction ratio. IPS (In Plane Switching) or MVA (Multi Vertical Aligned) is also used to give a wider viewing angle.

Q: Why is there no flicker on an LCD Monitor?
A: Technically speaking, LCDs do flicker, but the cause of the phenomenon is different from that of a CRT monitor -- and it has no impact of the ease of viewing. Flickering in an LCD monitor relates to usually undetectable luminance caused by the difference between positive and negative voltage. On the other hand, CRT flickering that can irritate the human eye occurs when the on/off action of the fluorescent object becomes visible. Since the reaction speed of liquid crystal in an LCD panel is much slower, this troublesome form of flickering is not present in an LCD display.

Q: Why is an LCD monitor virtually low of Electro Magnetic Interference?
A: Unlike a CRT, an LCD monitor does not have key parts that generate Electro Magnetic Interference, especially magnetic fields. Also, since an LCD display utilizes relatively low power, its power supply is extremely quiet.

Ergonomics, Ecology and Safety Standards

Q: What is the CE mark?
A: The CE (Conformite Europeenne) mark is required to be displayed on all regulated products offered for sale on the European market. This 'CE' mark means that a product complies with the relevant European Directive. A European Directive is a European 'Law' that relates to health, safety, environment and consumer protection, much the same as the U.S. National Electrical Code and UL Standards.

Q: Does the LCD monitor conform to general safety standards?
A: Yes. Philips LCD monitors conform to the guidelines of MPR-II and TCO 99/03 standards for the control of radiation, electromagnetic waves, energy reduction, electrical safety in the work environment and recyclability. The specification page provides detailed data on safety standards.

1 Electrical characteristics

1.1 Interface signals

1). D-Sub Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC

Sync. : Separate sync TTL level , input impedance 2.2k ohm terminate

Hsync Positive/Negative

Vsync Positive/Negative

Composite sync TTL level, input impedance 2.2k ohm terminate(Positive/Negative)

Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). Intel DVI Digital

Input signal : Four channel TMDS signal

1.2 Interface

1.2.1 D-Sub Cable

Length : 1.8 M +/- 50 mm (fixed) , fix in monitor and with transplant pin protect cover.

Connector type : D-Sub male with DDC2B pin assignments.

Blue connector thumb-operated jack screws

1.3 Timing requirement

1.3.1 Mode storing capacity

Factory preset modes : 20

Preset modes : 40

User define modes : 24

Note: 1. Screen displays perfect picture at 17 factory-preset modes.

1.3.2Factory preset modes (20 modes)

Item	H.Freq.	Mode	Resolution	V.Freq.	Item	H.Freq.	Mode	Resolution	V.Freq
1	31.469	DOS	720x400	70.087	11	60.023	VESA	1024x768	75.029
2	31.469	VESA	640x480	59.940	12	67.500	VESA	1152x864	75.000
3	37.861	VESA	640x480	72.809	13	47.712	VESA	1360x768	60.015
4	37.500	VESA	640x480	75.000	14	55.935	VESA	1440x900	59.887
5	35.156	VESA	800x600	56.250	15	70.635	VESA	1440x900	74.984
6	37.879	VESA	800x600	60.317	16	35.000	MACINTOSH	640x480	67.000
7	48.077	VESA	800x600	72.188	17	49.700	MACINTOSH	832x624	75.000
8	46.875	VESA	800x600	75.000	18	60.000	VESA	1280x960	60.000
9	48.363	VESA	1024x768	60.004	19	79.976	VESA	1280x1024	75.025
10	56.476	VESA	1024x768	70.069	20	64.744	VESA	1400x1050	59.948

2 White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB. Apply full white pattern, with brightness in 100 % position and the contrast control at 50 % position. The 1931 CIE Chromaticity (color triangle) diagram (x,y) coordinate for the screen center should be:

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General

DDC Data Re-programming
In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed "Analog DDC IC, Digital DDC IC & EEPROM".
It is advised to re-soldered DDC IC and main EEPROM from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information
Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA).
Extended Display Identification Data(EDID) information may be also obtained from VESA.

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98 .
   You have to Install the EDID_PORT_Tool under Win2000/XP . As Fig. 1 .

Fig. 1

A. Cody the "UserPort.sys" to C:\WINNT\system32\drivers(win2000)

C:\WINDOWS\system32\drivers(winXP)

B. Running " io.exe" everytime, Before you start to programming edid data .

3. EDID46.EXE program

4. A/D Alignment kits (12NC: 3138 106 10396):
   inclusion : a. Alignment box x1 (Fig. 2)

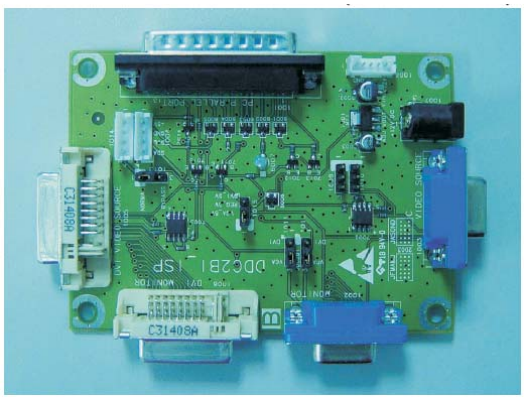


Fig. 2

b. Printer cable x1
c. (D-Sub) to (D-Sub) cable x1
D. (D-Sub) to (DVI) cable x1

Note: The alignment box has already build-in a batteries socket for using batteries (8~12V) as power source. Pull out the socket by remove four screws at the rear of box. Please do not forget that remove batteries after programming. The energy of batteries can only drive circuits for a short period of time.

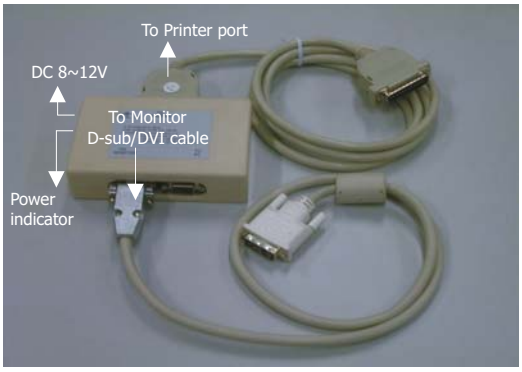
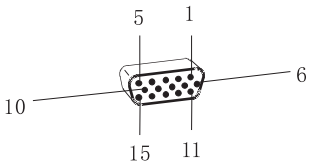


Fig. 3

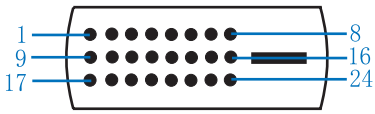
Pin assignment

A. 15-pin D-Sub Connector



PIN No.	SIGNAL
1	Red video input
2	Green video input / sync on green
3	Blue video input
4	GND
5	GND - Cable detect
6	Red video GND
7	Green video GND
8	Blue video ND
9	DDC +3.3V or +5V
10	Logic GND
11	GND
12	Serial data line (SDA)
13	H-sync / H+V
14	V-sync
15	Data clock line (SCL)

B. Input DVI -D Connector pin



Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V) - Cable detect
16	Hot plug detect
17	T.M.D.S. data0-
18	T.M.D.S. data0+
19	T.M.D.S. data0 shield
20	No Connect
21	No Connect
22	T.M.D.S clock shield
23	T.M.D.S. clock+
24	T.M.D.S. clock-

DDC Instructions

Configuration and procedure

There is no Hardware DDC (DDC IC) anymore. Main EEPROM stores all factory settings and DDC data (EDID code) which is also called Software DDC. The following section describes the connection and procedure for Software DDC application. The main EEPROM can be re-programmed by enabling '' factory memory data write'' function on the DDC program (EDID46.EXE).

Initialize alignment box

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before running programming software (EDID46.EXE). Following steps show you the procedures and connection.

Step 1: Supply 8-12V DC power source to the Alignment box by plugging a DC power cord .
Step 2: Connecting printer cable and D-Sub cable of monitor as Fig. 4

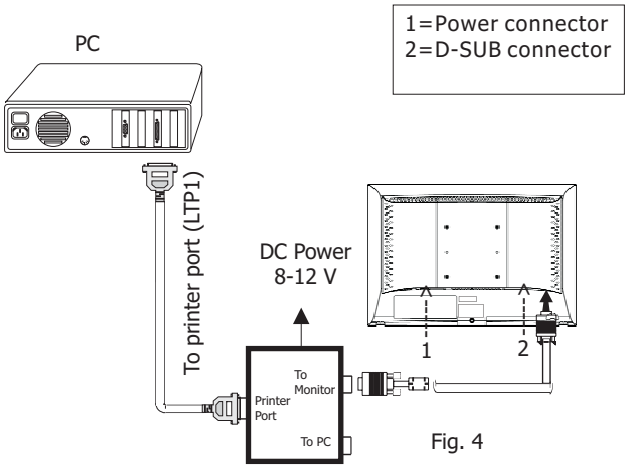


Fig. 4

Step 3: Installation of EDID46.EXE

Method 1: Start on DDC program

Start Microsoft Windows.
1. The Program"EDID46.EXE" in service manual cd-rom be copyed to C:\ .
2. Click Start , choose Run at start menu of Windows as shown In Fig. 5.

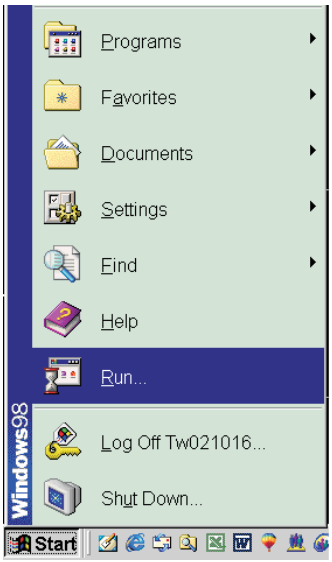


Fig. 5

3. At the submenu, type the letter of your computer's hard disk drive followed by :EDID46 (for example, C:\EDID46, as shown in Fig. 6).

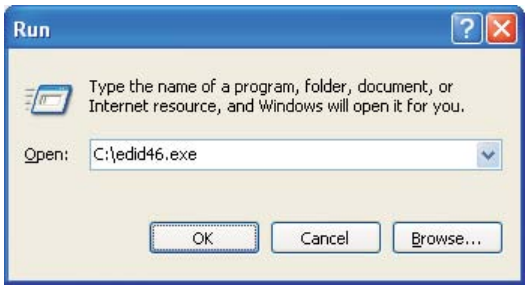


Fig. 6

4. Click OK button. The main menu appears (as shown in Fig. 7). This is for initialize alignment box.

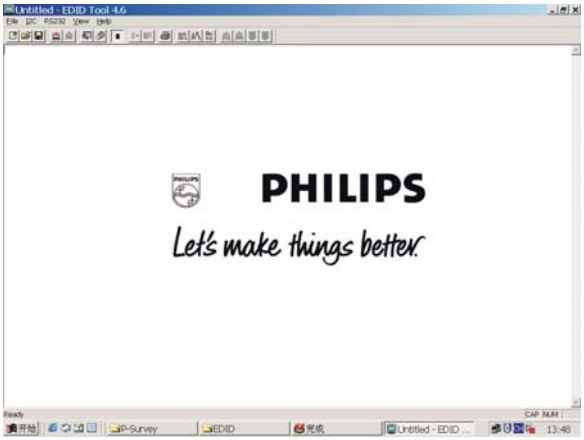


Fig. 7

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 8) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and fixedly, and the procedure has been performed properly.

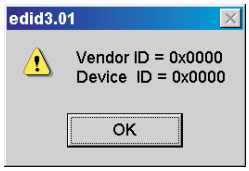


Fig. 8

Note 2: During the loading, EDID46 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.

1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup windows.
4. Cables loosed or poor contact of connection.

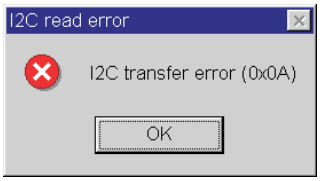


Fig. 9

Re-programming Analog DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 10.

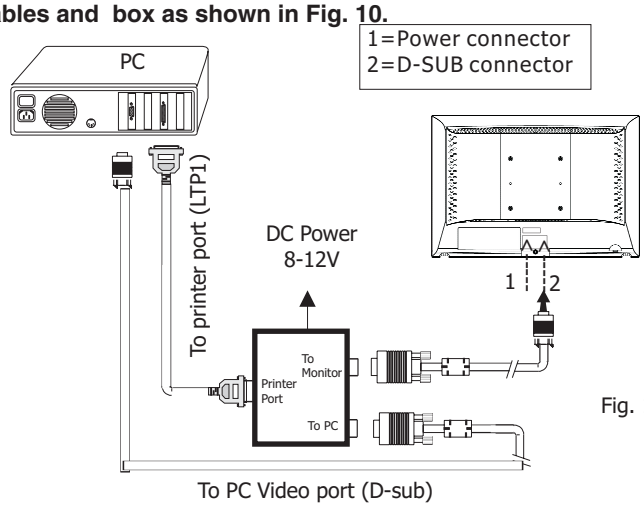


Fig. 10

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 11 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 11.

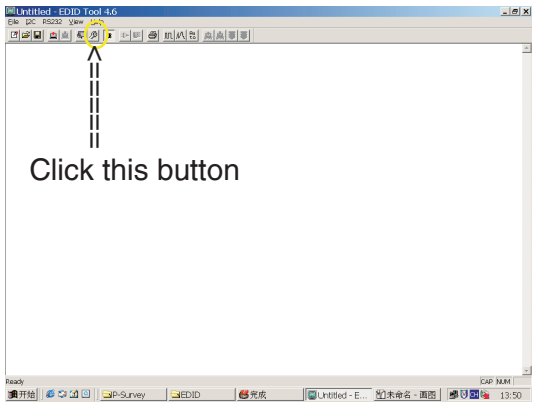


Fig. 11

2. Select the DDC2Bi as the communication channel. As shown in Fig. 12.

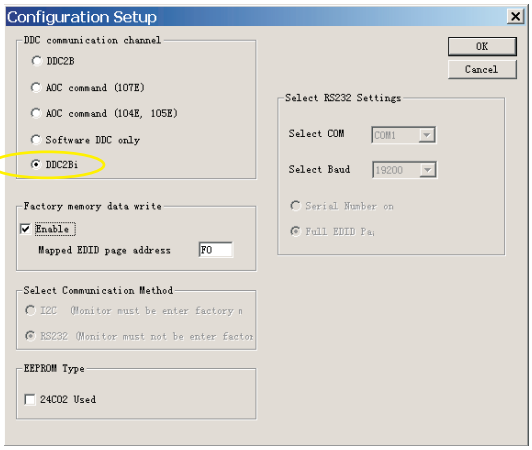


Fig. 12

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 13.

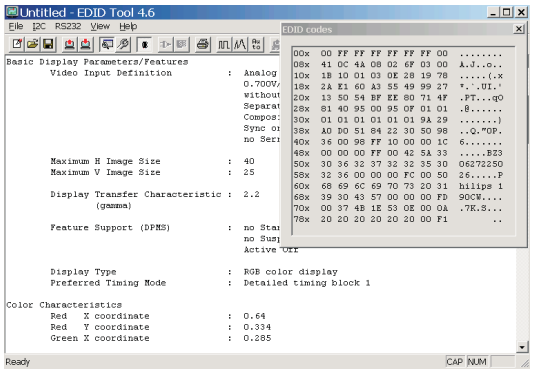

Untitled - EDID Tool 4.6
File I2C RS232 View Help
EDID codes
Basic Display Parameters/Features
Video Input Definition : Analog 0.700V/
Maximum H Image Size : 40
Maximum V Image Size : 25
Display Transfer Characteristic : 2.2 (gamma)
Feature Support (DPMS) :
Display Type : RGB color display
Preferred Timing Mode : Detailed timing block 1
Color Characteristics
Red X coordinate : 0.64
Red Y coordinate : 0.334
Green X coordinate : 0.285
Ready
CAP NUM

Fig. 13

Step 3: Modify DDC data (verify EDID version, week, year)

Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 14 .
EDID46 DDC application provides the function selection and

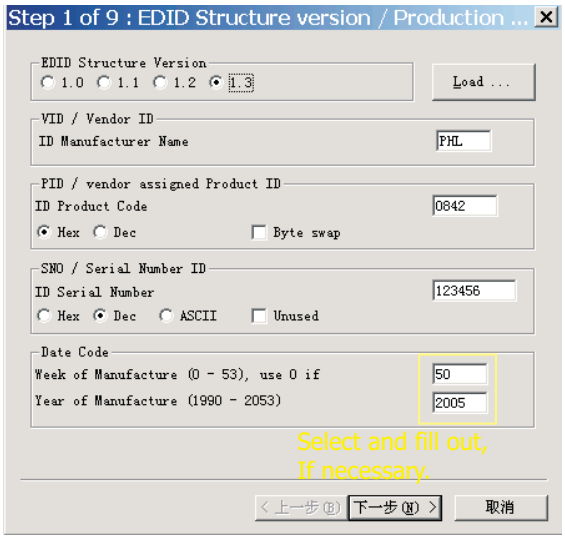


Fig. 14

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next , bring up Fig. 15.

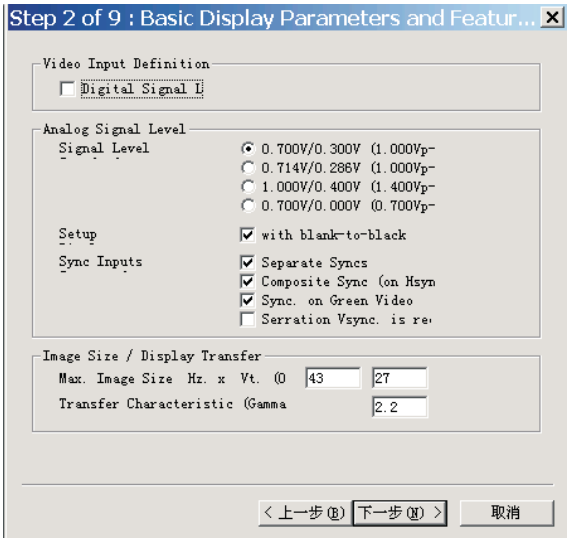


Fig. 15

2. Click Next , bring up Fig.16.

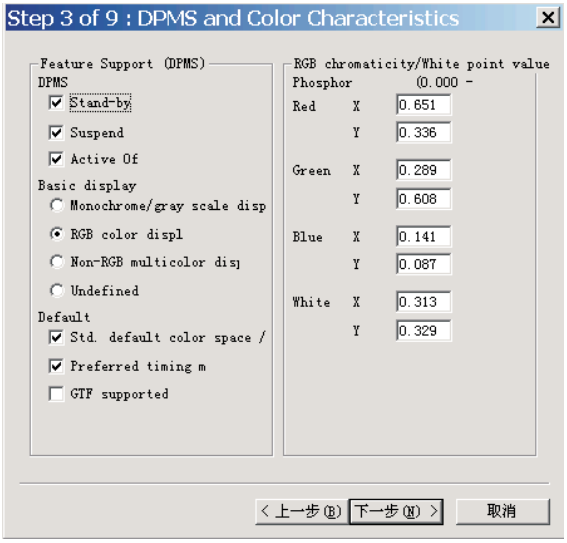


Fig. 16

3. Click Next , bring up Fig.17.

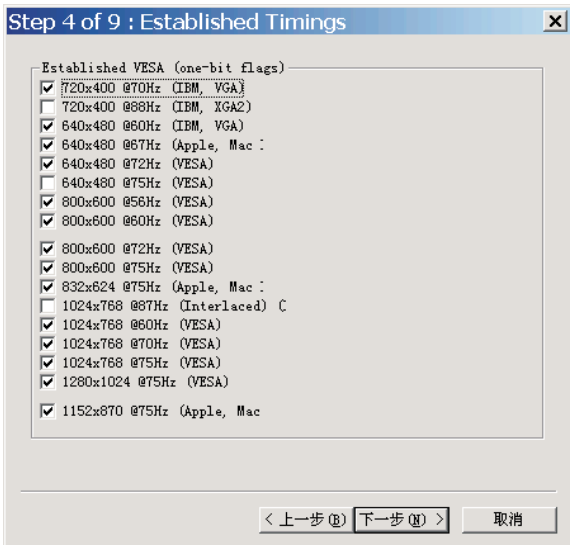


Fig. 17

4. Click Next , bring up Fig.18.

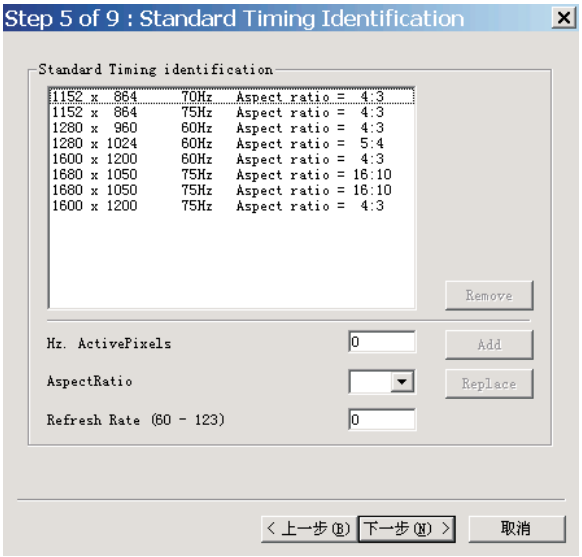

Step 5 of 9 : Standard Timing Identification
Standard Timing identification
1152 x 864 70Hz Aspect ratio = 4:3
1152 x 864 75Hz Aspect ratio = 4:3
1280 x 960 60Hz Aspect ratio = 4:3
1280 x 1024 60Hz Aspect ratio = 5:4
1600 x 1200 60Hz Aspect ratio = 4:3
1680 x 1050 75Hz Aspect ratio = 16:10
1680 x 1050 75Hz Aspect ratio = 16:10
1600 x 1200 75Hz Aspect ratio = 4:3
Remove
Hz. ActivePixels 0
Add
AspectRatio
Replace
Refresh Rate (60 - 123) 0
< 上一步(B) 下一步(N) > 取消

Fig. 18

5. Click Next , bring up Fig.19.

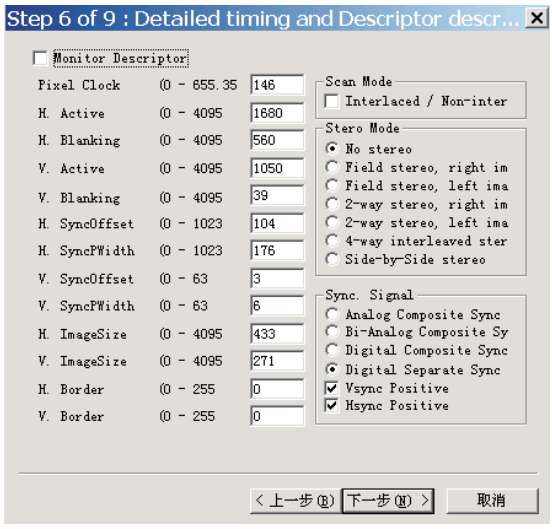

Step 6 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Pixel Clock (0 - 655.35 146
H. Active (0 - 4095 1680
H. Blanking (0 - 4095 560
V. Active (0 - 4095 1050
V. Blanking (0 - 4095 39
H. SyncOffset (0 - 1023 104
H. SyncPWidth (0 - 1023 176
V. SyncOffset (0 - 63 3
V. SyncPWidth (0 - 63 6
H. ImageSize (0 - 4095 433
V. ImageSize (0 - 4095 271
H. Border (0 - 255 0
V. Border (0 - 255 0
Scan Mode
Interlaced / Non-inter
Stero Mode
No stereo
Field stereo, right im
Field stereo, left ima
2-way stereo, right im
2-way stereo, left ima
4-way interleaved ster
Side-by-Side stereo
Sync. Signal
Analog Composite Sync
Bi-Analog Composite Sy
Digital Composite Sync
Digital Separate Sync
Vsync Positive
Hsync Positive
< 上一步(B) 下一步(N) > 取消

Fig. 19

6. Click Next , bring up Fig. 20.
In this step, please confirm the Descriptor Data Type is Monitor Range Limits, and all the items are same as below.

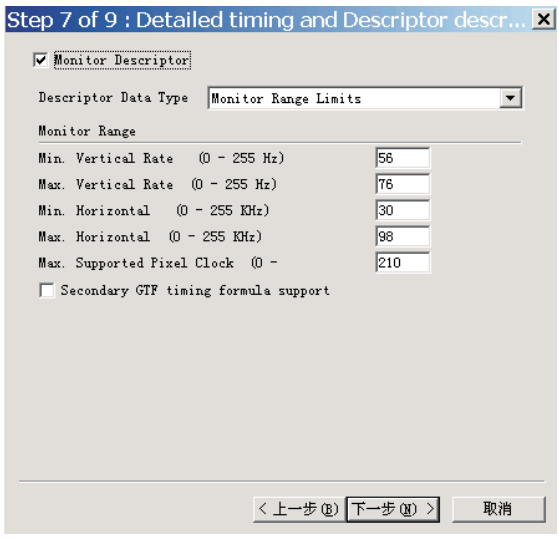

Step 7 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Descriptor Data Type Monitor Range Limits
Monitor Range
Min. Vertical Rate (0 - 255 Hz) 56
Max. Vertical Rate (0 - 255 Hz) 76
Min. Horizontal (0 - 255 KHz) 30
Max. Horizontal (0 - 255 KHz) 98
Max. Supported Pixel Clock (0 - 210
Secondary GTF timing formula support
< 上一步(B) 下一步(N) > 取消

Fig. 20

7. Click Next , bring up Fig. 21.

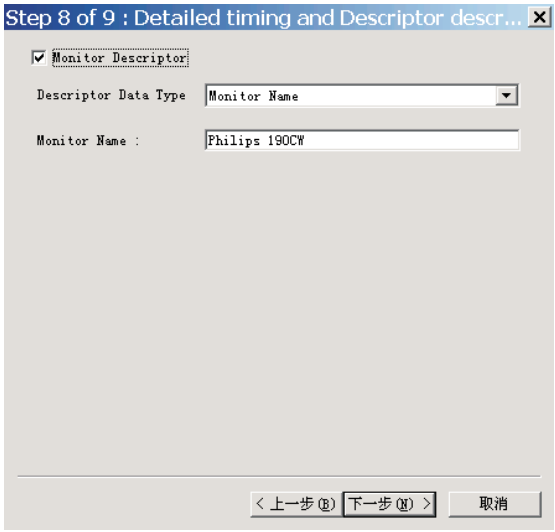

Step 8 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Descriptor Data Type Monitor Name
Monitor Name : Philips 190CW
< 上一步(B) 下一步(N) > 取消

Fig. 21

8. Click Next , bring up Fig. 22.
   - Click Finish to exit the Step window.
   - Serial number can be filled up at this moment (for example, TY 123456).

NOTE: You must modify the Serial NO. In step 9, otherwise the Serial NO. In OSD Couldn't be modified correctly.

Step 5: Write DDC data

1. Configuration should be as Fig. 23. And press OK.

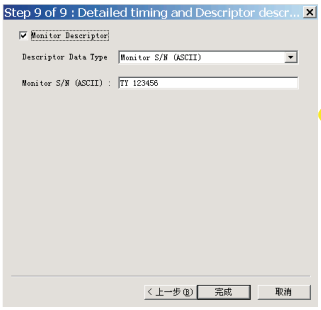


Fig. 22

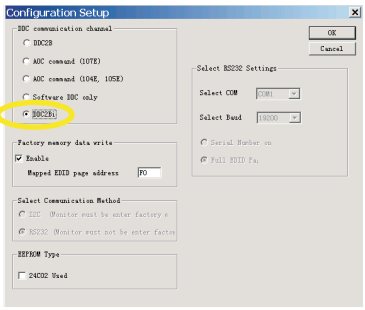


Fig. 23

2. Access Factory Mode

1). Turn off monitor.

2). [Push "AUTO" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"] => then release all buttons

3).Press "MENU" button, wait until the OSD menu with Characters "HUDSON 190CW7 V0.15 2006-06-26" (below OSD menu) come on the Screen of the monitor. as shown in Fig24.

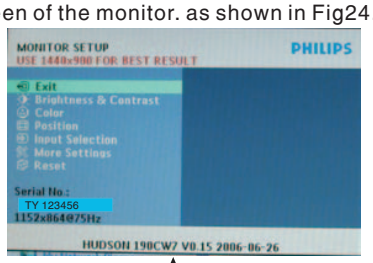


Fig. 24

Factory Mode indicator

3) Push "Menu" to exit OSD menu.

4). Click (Write EDID) icon from the tool bar to write DDC data. Then wait for 20-30 seconds ,DDC data will be finished Writing.

Step 6: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar and give a file name as shown in Fig. 25.
   The file type is EDID46 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table ar completely correct, it can be saved as .ddc flie to re-load it into DDC IC for DDC Data application.

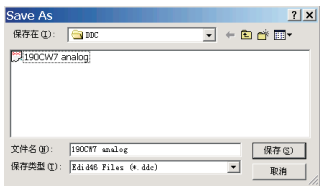


Fig. 25

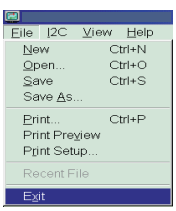


Fig. 26

2. Click Save.

Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 26.

Step 8: Modify serial number in OSD

1. Unzip the serial number.zip to your computer, then open the folder as shown in Fig.27.
2. If use Win98 OS, you can execute SN.exe directly.
   If use Win2000 or XP OS, first, you must execute install.bat, then execute SN.exe
3. Set I2C bus(press the left-top button of operating window) as shown in Fig.28, then press " SET" button.
4. Set Block2 as shown in Fig.29
5. key in new serial number, then press " Write" button as shown in Fig.29 , Click " WRITE" button.
6. It will appear "Serial Number Write OK" , Click "Enter" to finish it.

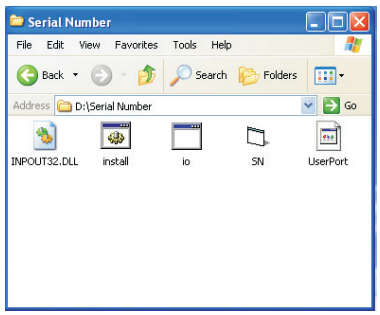


Fig.27

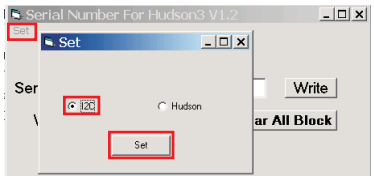


Fig.28

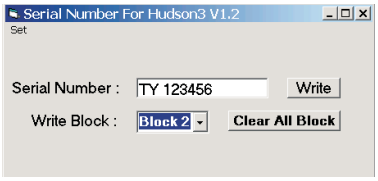


Fig.29

Step9:

1. Disconnect the monitor power cord and connect it again.
2. Press the OK button to bring up the OSD main manu.
3. Re-confirm the serial Number is updated as shown in Fig.30.

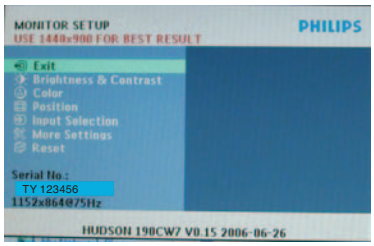


Fig.30

Re-programming Digital DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 31.

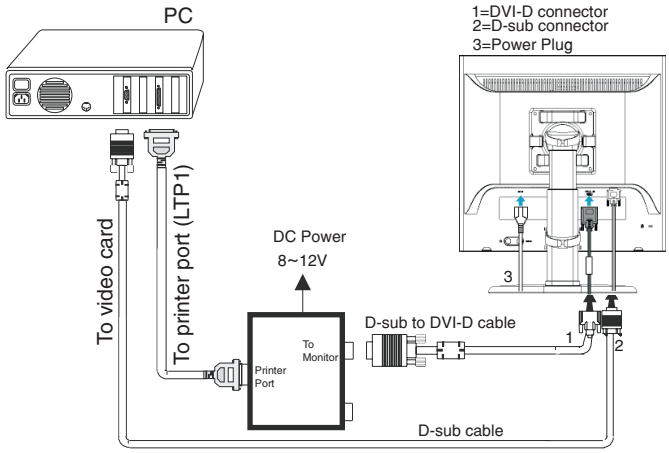


Fig. 31

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 11 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 32.

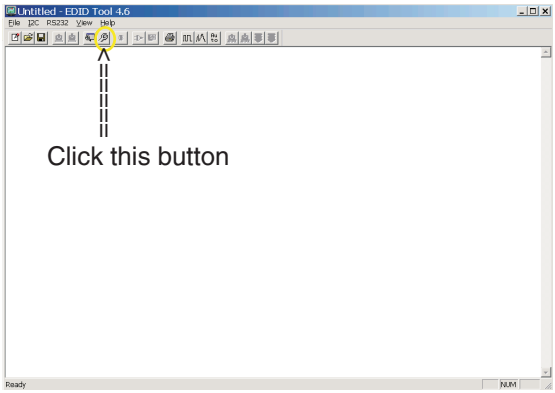


Fig. 32

2. Select the DDC2Bi as the communication channel. As shown in Fig. 33.

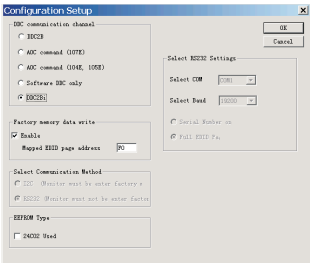


Fig. 33

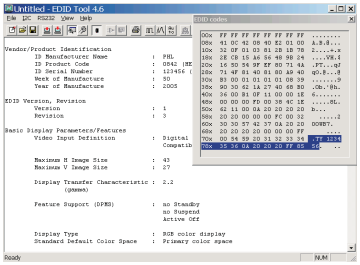


Fig. 34

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 34.

Step 3: Modify DDC data (verify EDID version, week, year)

Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 35 .
EDID46 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

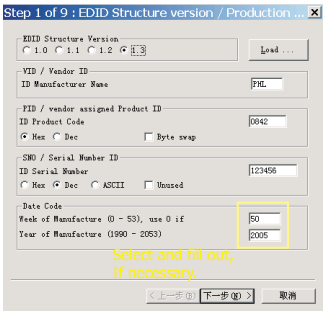


Fig. 35

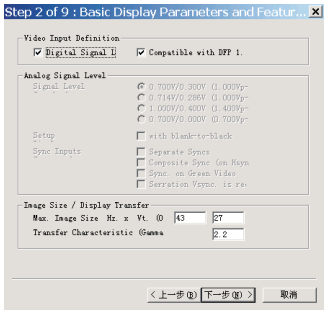


Fig. 36

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next , bring up Fig. 36.
2. Click Next , bring up Fig. 37.
3. Click Next , bring up Fig. 38.

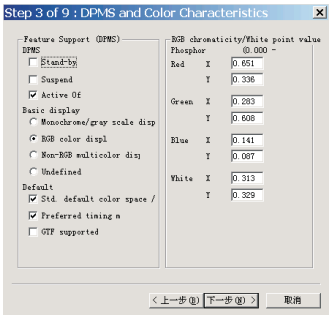


Fig. 37

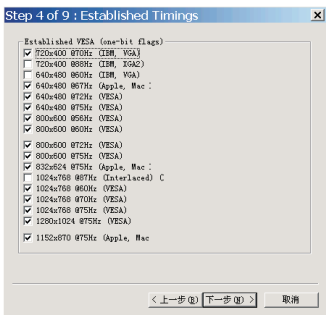


Fig. 38

4. Click Next , bring up Fig. 39.
5. Click Next , bring up Fig. 40.

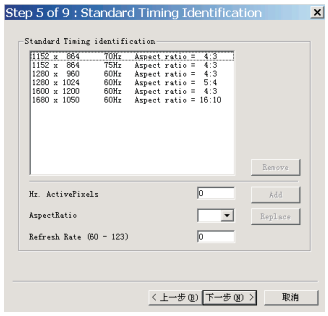


Fig. 39

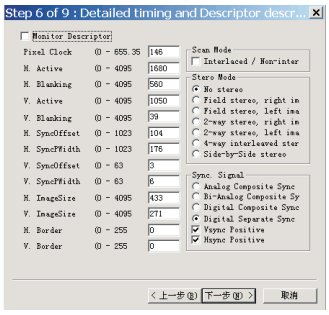


Fig. 40

6. Click Next , bring up Fig. 41.
   In this step, please confirm the Descriptor Data Type is Monitor Range Limits, and all the items are same as below.
7. Click Next , bring up Fig. 42.

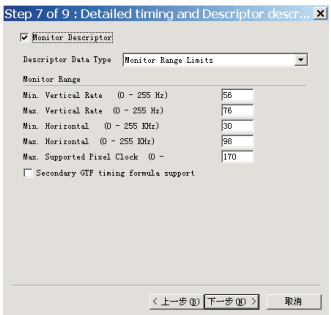


Fig. 41

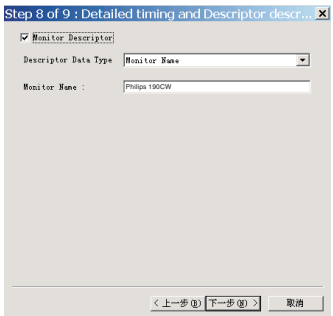


Fig. 42

8. Click Next , bring up Fig. 43.
- Click Finish to exit the Step window.
- Serial number can be filled up at this moment (for example, TY 123456).

NOTE: You must modify the Serial NO. In step 9, otherwise the Serial NO. In OSD Couldn't be modified correctly.

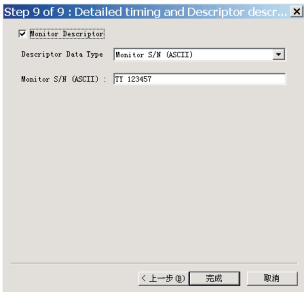

Step 9 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Descriptor Data Type
Monitor S/N (ASCII)
Monitor S/N (ASCII) :
TY 123457

Fig. 43

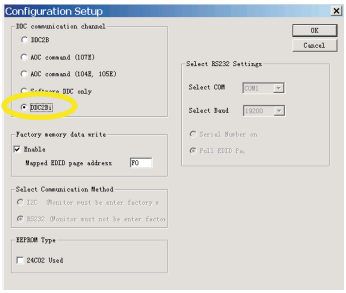
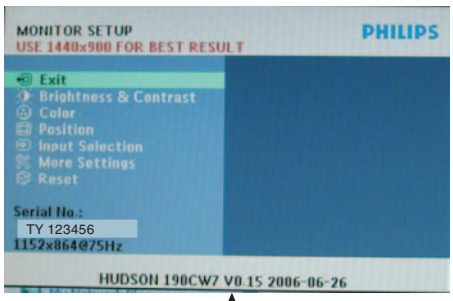


Fig. 44

Step 5: Write DDC data

1. Configuration should be as Fig. 40. And press OK.

2. Access Factory Mode
1). Turn off monitor.
2). [Push "AUTO" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"]
=> then release all buttons
3).Press "MENU" button, wait until the OSD menu with Characters "HUDSON 190CW7 V0.15 2006-06-26" (below OSD menu) come on the Screen of the monitor. as shown in Fig24.



Factory Mode indicator

Fig. 45

3) Push "Menu" to exit OSD menu.

3. Click (Write EDID) icon from the tool bar to write DDC data. Then wait for 20-30 seconds ,DDC data will be finished Writing.

Step 6: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar and give a file name as shown in Fig. 46.
The file type is EDID46 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table ar completely correct, it can be saved as *.ddc flie to re-load it into DDC IC for DDC Data application.

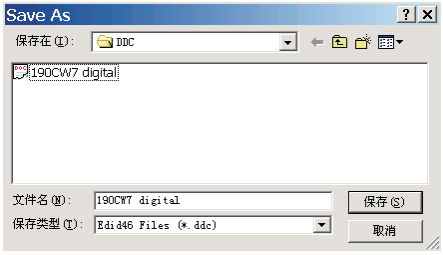


Fig.46

2. Click Save.

Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 47.

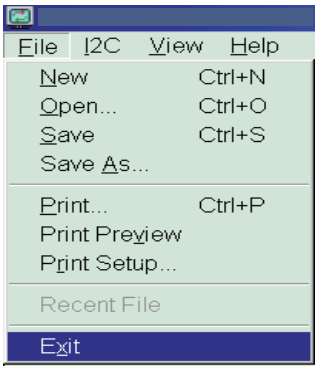


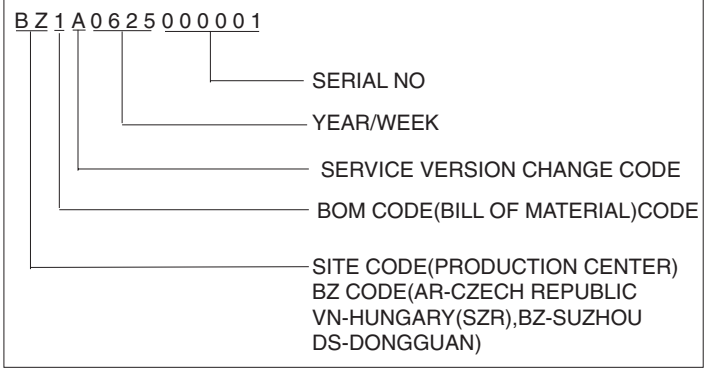
Fig. 47

Step 8: Turn off the monitor, exit the factory mode.

Serial Number Definition

BOM Code

Panel Supplier	CODE
AUO	1
CPT	2
LPL(LG)	3
QDI	4
CMO	5



DDC DATA

THE DISPLAY DATA CHANNEL (DDC_2B) CONTENT INCLUDING:
(FOR 190CW7 ANALOG FOR CMO PANEL)

****
EDID log file
****

Vendor/Product Identification
ID Manufacturer Name : PHL
ID Product Code : 084A (HEX.)
ID Serial Number : 36F02 (HEX.)
Week of Manufacture : 27
Year of Manufacture : 2006

EDID Version, Revision
Version : 1
Revision : 3

Basic Display Parameters/Features
Video Input Definition : Analog Video Input
0.700V/0.300V (1.00Vpp)
without Blank-to-Black Setup
Separate Sync
Composite Sync
Sync on Green
no Serration required

Maximum H Image Size : 40
Maximum V Image Size : 25

Display Transfer Characteristic : 2.2
(gamma)

Feature Support (DPMS) : no Standby
no Suspend
Active Off

Display Type : RGB color display
Preferred Timing Mode : Detailed timing block 1

Color Characteristics
Red X coordinate : 0.64
Red Y coordinate : 0.334
Green X coordinate : 0.285
Green Y coordinate : 0.599
Blue X coordinate : 0.153
Blue Y coordinate : 0.076
White X coordinate : 0.313
White Y coordinate : 0.328

Established Timings
Established Timings I : 720 x 400 @70Hz (IBM,VGA)
640 x 480 @60Hz (IBM,VGA)
640 x 480 @67Hz (Apple,Mac II)
640 x 480 @72Hz (VESA)
640 x 480 @75Hz (VESA)
800 x 600 @56Hz (VESA)
800 x 600 @60Hz (VESA)

Established Timings II : 800 x 600 @72Hz (VESA)
800 x 600 @75Hz (VESA)
832 x 624 @75Hz (Apple,Mac II)
1024 x 768 @60Hz (VESA)
1024 x 768 @70Hz (VESA)
1024 x 768 @75Hz (VESA)

Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1
Horizontal active pixels : 1152
Aspect Ratio : 4:3
Refresh Rate : 75

Standard Timing Identification #2
Horizontal active pixels : 1280
Aspect Ratio : 4:3
Refresh Rate : 60

Standard Timing Identification #3
Horizontal active pixels : 1440
Aspect Ratio : 16:10
Refresh Rate : 60

Standard Timing Identification #4
Horizontal active pixels : 1440
Aspect Ratio : 16:10
Refresh Rate : 75

Detailed Timing #1
Pixel Clock (MHz) : 106.5
H Active (pixels) : 1440
H Blanking (pixels) : 464
V Active (lines) : 900
V Blanking (lines) : 34
H Sync Offset (F Porch) (pixels): 80
H Sync Pulse Width (pixels) : 152
V Sync Offset (F Porch) (lines) : 3
V Sync Pulse Width (lines) : 6
H Image Size (mm) : 408
V Image Size (mm) : 255
H Border (pixels) : 0
V Border (lines) : 0
Flags : Non-interlaced
: Normal Display, No stereo
: Digital Separate sync.
: Positive Vertical Sync.
: Negative Horizontal Sync.

Monitor Descriptor #2
Monitor Range Limits
Min. Vt rate Hz : 55
Max. Vt rate Hz : 75
Min. Horiz. rate kHz : 30
Max. Horiz. rate kHz : 83
Max. Supported Pixel : 140

No secondary GTF timing formula supported.

Monitor Descriptor #3
Monitor Name : Philips 190CW

Monitor Descriptor #4
Serial Number : TY 12345

Extension Flag : 0

Check sum : 6A (HEX.)

****
EDID data (128 bytes)
****

0: 00 1: ff 2: ff 3: ff 4: ff 5: ff 6: ff 7: 00
8: 41 9: 0c 10: 4a 11: 08 12: 02 13: 6f 14: 03 15: 00
16: 1b 17: 10 18: 01 19: 03 20: 0e 21: 28 22: 19 23: 78
24: 2a 25: e1 26: 60 27: a3 28: 55 29: 49 30: 99 31: 27
32: 13 33: 50 34: 54 35: bf 36: ee 37: 80 38: 71 39: 4f
40: 81 41: 40 42: 95 43: 00 44: 95 45: 0f 46: 01 47: 01
48: 01 49: 01 50: 01 51: 01 52: 01 53: 01 54: 9a 55: 29
56: a0 57: d0 58: 51 59: 84 60: 22 61: 30 62: 50 63: 98
64: 36 65: 00 66: 98 67: ff 68: 10 69: 00 70: 00 71: 1c
72: 00 73: 00 74: 00 75: fd 76: 00 77: 37 78: 4b 79: 1e
80: 53 81: 0e 82: 00 83: 0a 84: 20 85: 20 86: 20 87: 20
88: 20 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 31
104: 39 105: 30 106: 43 107: 57 108: 00 109: 00 110: 00 111: ff
112: 00 113: 54 114: 59 115: 20 116: 31 117: 32 118: 33 119: 34
120: 35 121: 0a 122: 20 123: 20 124: 20 125: 20 126: 00 127: 6a

THE DISPLAY DATA CHANNEL (DDC_2B) CONTENT INCLUDING:
(FOR 190CW7 DIGITAL FOR CMO PANEL)
****
EDID log file
****

Vendor/Product Identification
ID Manufacturer Name : PHL
ID Product Code : 084A (HEX.)
ID Serial Number : 36F02 (HEX.)
Week of Manufacture : 27
Year of Manufacture : 2006

EDID Version, Revision
Version : 1
Revision : 3

Basic Display Parameters/Features
Video Input Definition : Digital Video Input

Maximum H Image Size : 40
Maximum V Image Size : 25

Display Transfer Characteristic : 2.2
(gamma)

Feature Support (DPMS) : no Standby
no Suspend
Active Off

Display Type : RGB color display
Preferred Timing Mode : Detailed timing block 1

Color Characteristics
Red X coordinate : 0.64
Red Y coordinate : 0.334
Green X coordinate : 0.285
Green Y coordinate : 0.599
Blue X coordinate : 0.153
Blue Y coordinate : 0.076
White X coordinate : 0.313
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Established Timings I : 720 x 400 @70Hz (IBM,VGA)
640 x 480 @60Hz (IBM,VGA)
640 x 480 @67Hz (Apple,Mac II)
640 x 480 @72Hz (VESA)
640 x 480 @75Hz (VESA)
800 x 600 @56Hz (VESA)
800 x 600 @60Hz (VESA)

Established Timings II : 800 x 600 @72Hz (VESA)
800 x 600 @75Hz (VESA)
832 x 624 @75Hz (Apple,Mac II)
1024 x 768 @60Hz (VESA)
1024 x 768 @70Hz (VESA)
1024 x 768 @75Hz (VESA)

Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1
Horizontal active pixels : 1152
Aspect Ratio : 4:3
Refresh Rate : 75

Standard Timing Identification #2
Horizontal active pixels : 1280
Aspect Ratio : 4:3
Refresh Rate : 60

Standard Timing Identification #3
Horizontal active pixels : 1440
Aspect Ratio : 16:10
Refresh Rate : 60

Standard Timing Identification #4
Horizontal active pixels : 1440
Aspect Ratio : 16:10
Refresh Rate : 75

Detailed Timing #1
Pixel Clock (MHz) : 106.5
H Active (pixels) : 1440
H Blanking (pixels) : 464
V Active (lines) : 900
V Blanking (lines) : 34
H Sync Offset (F Porch) (pixels): 80
H Sync Pulse Width (pixels) : 152
V Sync Offset (F Porch) (lines) : 3
V Sync Pulse Width (lines) : 6
H Image Size (mm) : 408
V Image Size (mm) : 255
H Border (pixels) : 0
V Border (lines) : 0
Flags : Non-interlaced
: Normal Display, No stereo
: Digital Separate sync.
: Positive Vertical Sync.
: Negative Horizontal Sync.

Monitor Descriptor #2
Monitor Range Limits
Min. Vt rate Hz : 55
Max. Vt rate Hz : 75
Min. Horiz. rate kHz : 30
Max. Horiz. rate kHz : 83
Max. Supported Pixel : 140

No secondary GTF timing formula supported.

Monitor Descriptor #3
Monitor Name : Philips 190CW

Monitor Descriptor #4
Serial Number : TY 123456

Extension Flag : 0

Check sum : E2 (HEX.)

****
EDID data (128 bytes)
****

0: 00 1: ff 2: ff 3: ff 4: ff 5: ff 6: ff 7: 00
8: 41 9: 0c 10: 4a 11: 08 12: 02 13: 6f 14: 03 15: 00
16: 1b 17: 10 18: 01 19: 03 20: 80 21: 28 22: 19 23: 78
24: 2a 25: e1 26: 60 27: a3 28: 55 29: 49 30: 99 31: 27
32: 13 33: 50 34: 54 35: bf 36: ee 37: 80 38: 71 39: 4f
40: 81 41: 40 42: 95 43: 00 44: 95 45: 0f 46: 01 47: 01
48: 01 49: 01 50: 01 51: 01 52: 01 53: 01 54: 9a 55: 29
56: a0 57: d0 58: 51 59: 84 60: 22 61: 30 62: 50 63: 98
64: 36 65: 00 66: 98 67: ff 68: 10 69: 00 70: 00 71: 1c
72: 00 73: 00 74: 00 75: fd 76: 00 77: 37 78: 4b 79: 1e
80: 53 81: 0e 82: 00 83: 0a 84: 20 85: 20 86: 20 87: 20
88: 20 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 31
104: 39 105: 30 106: 43 107: 57 108: 00 109: 00 110: 00 111: ff
112: 00 113: 54 114: 59 115: 20 116: 31 117: 32 118: 33 119: 34
120: 35 121: 36 122: 0a 123: 20 124: 20 125: 20 126: 00 127: e2

Firmware Upgrade for CPU

Configuration and procedure

"Easywriter " The software is provided by Novatek to upgrade the firmware of CPU.
It is a windows-based program, which cannot be run in MS-DOS.
DDC2BI_ISP TOOL (3138 149 53161) is for the interface between "Parallel Port of PC" and "15 pin-D-SUB connector of Monitor".

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP.
3. ISP Software " Easywrite "
4. DDC2BI_ISP TOOL (3138 106 10396) as shown in Fig. 1

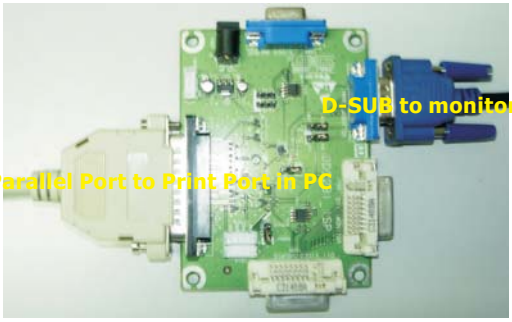


Fig. 1

5. Connect DDC2BI_ISP TOOL and Mains cord to Monitor as shown in Fig. 2.

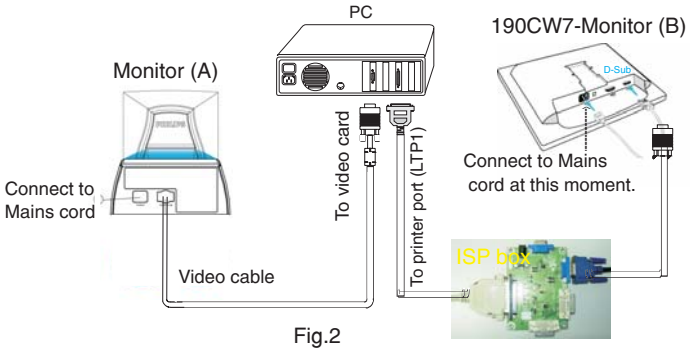


Fig.2

6. Install and setup the Easywriter program

Step 1 : Make a folder in your PC as shown in Fig. 3.
For example : C:\190CW7
Step 2 : Copy ISP Software Easywriter.zip into your folder as shown in Fig.3.
Step 3 : Unzip Easywriter.zip into your folder as shown in Fig. 3.

Step 4 : Double click the EasyWriterV2.10p2 icon to install the Application as Fig. 4.

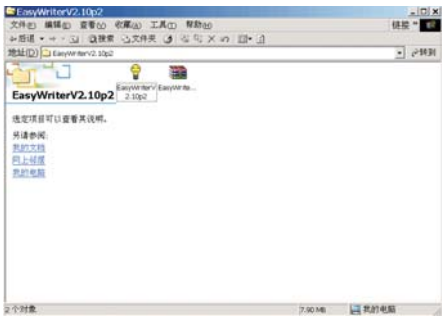


Fig. 3

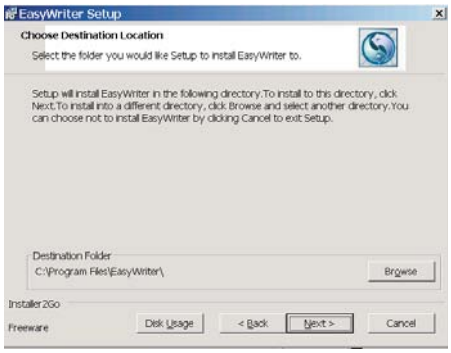

EasyWriter Setup
Choose Destination Location
Select the folder you would like Setup to install EasyWriter to.
Setup will install EasyWriter in the following directory.To install to this directory, click Next.To install into a different directory, click Browse and select another directory.You can choose not to install EasyWriter by clicking Cancel to exit Setup.
Destination Folder
C:\Program Files\EasyWriter\
Browse
Installer2Go
Freeware
Disk Usage
< Back
Next >
Cancel

Fig. 4

Step 5 :Copy the 190CW7_NT68663_M190A1_EU_4C70_Org_V015 to C:\190CW7 as shown in Fig. 5 .

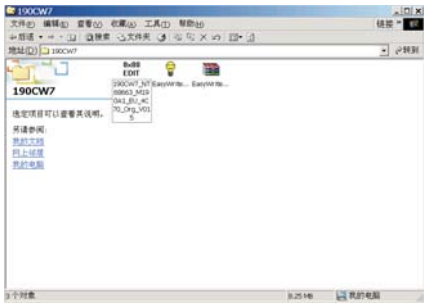


Fig. 5

Update the firmware

1. Double click the Easywriter.exe icon in desktop then appears window as shown in Fig.7 .

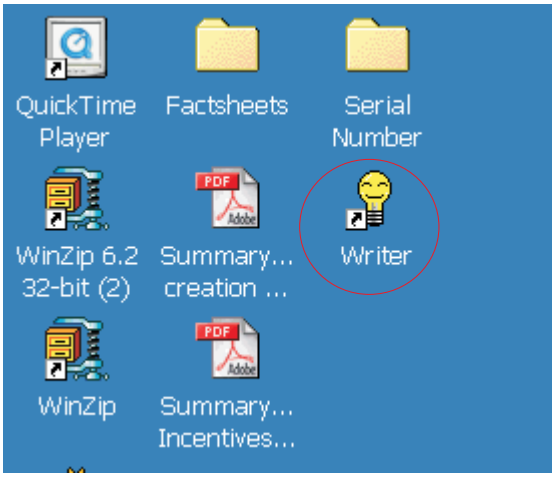


Fig. 6

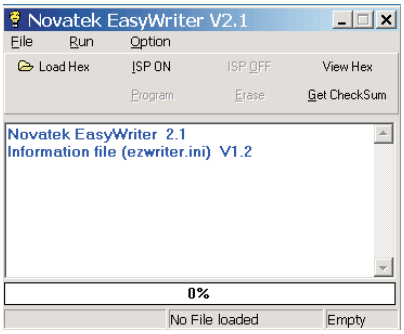


Fig. 7

2. Press the Load hex then select the hex as shown in Fig. 8.

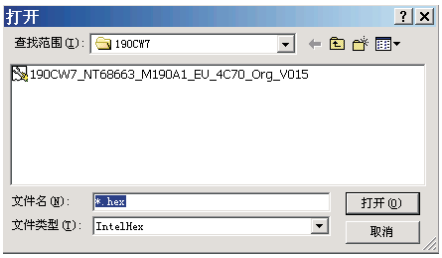


Fig. 8

3 Press the AUTO to running program , the firmware be updated as shown in Fig. 9~10.

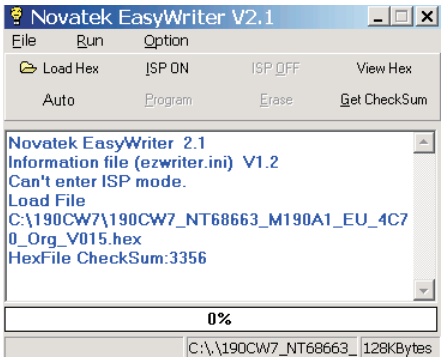


Fig. 9

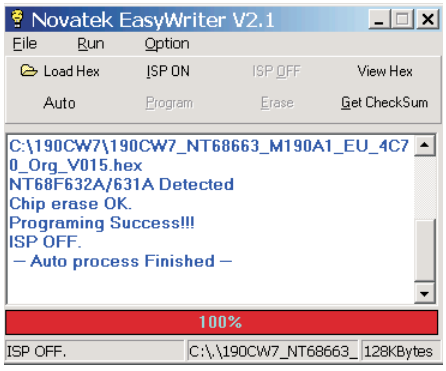


Fig. 10

4 Press the file --> exit to end program , as shown in Fig. 11.

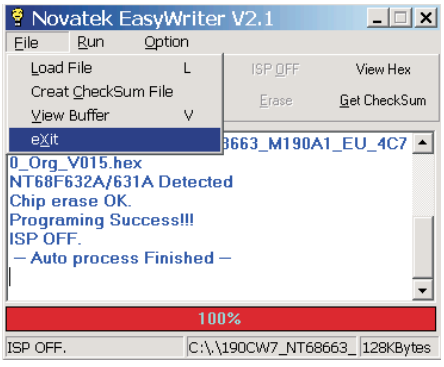


Fig. 11

If there is a warring message coming as shown in Fig 12. , you have to check the AC power, Video cable, or Novatek MCU.

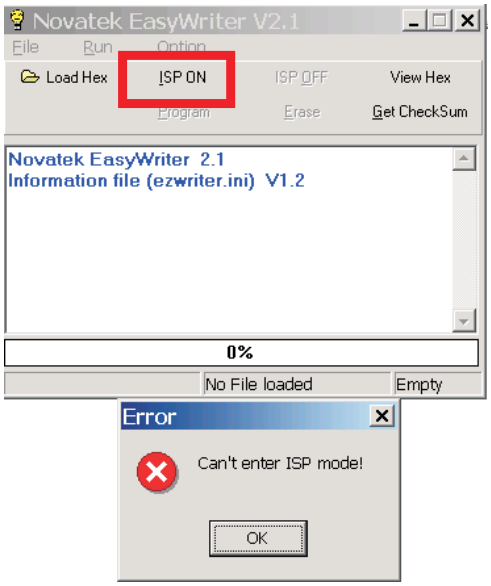
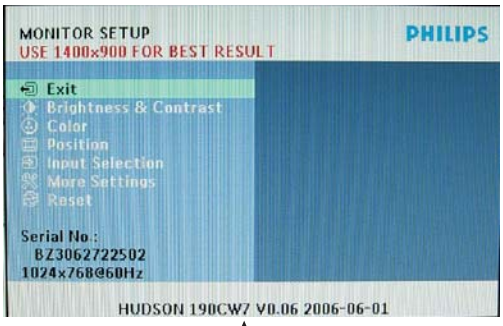


Fig. 12

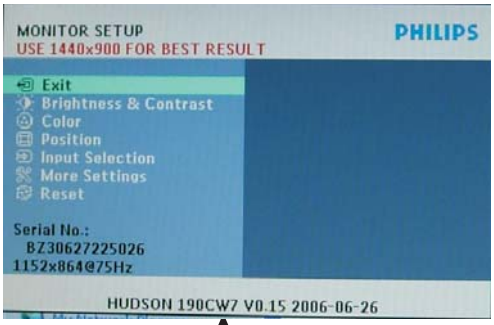
5 Check the firmware version

1). Turn off monitor.
2). [Push "AUTO" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"] => then release all buttons.
3).Press "MENU" button, wait until the OSD menu come on the Screen of the monitor.You will find, after upgrade, the version have already changed from The former"HUDSON 190CW7 V0.06 2006-06-01" to the Present "HUDSON 190CW7 V0.15 2006-06-26? as shown in Fig. 13 and Fig. 14.



Factory Mode indicator

Fig. 13



Factory Mode indicator

Fig. 14

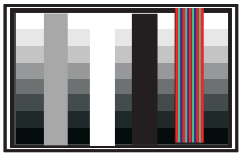
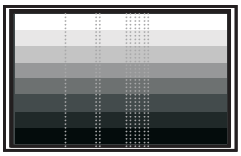
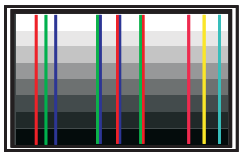
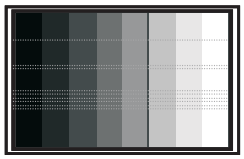
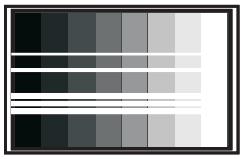
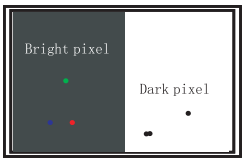
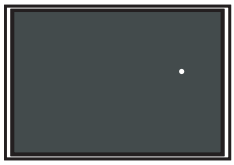
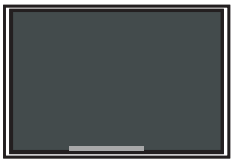
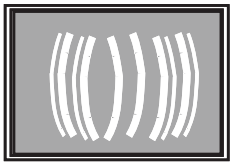
4) Turn off the monitor, exit the factory mode.

Failure Mode Of Panel

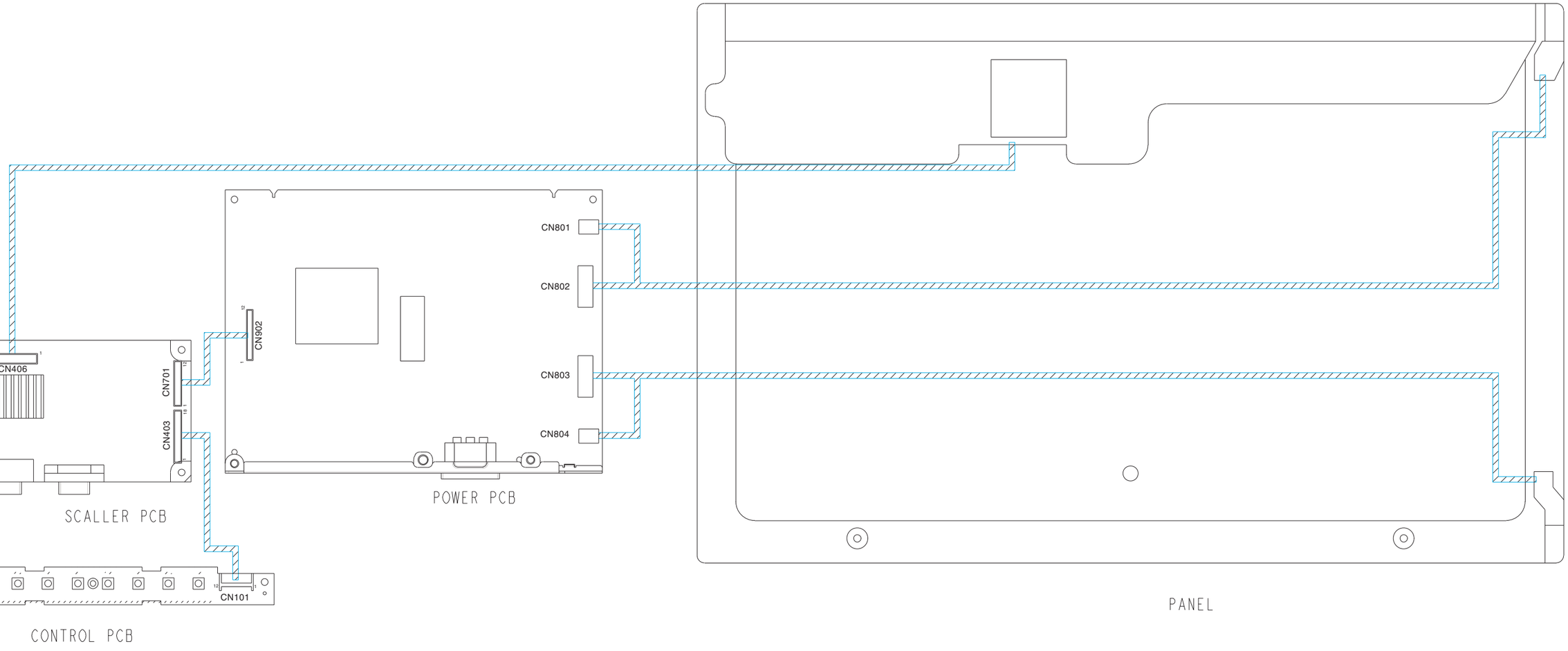
Go to cover page

Quick reference for failure mode of LCD panel

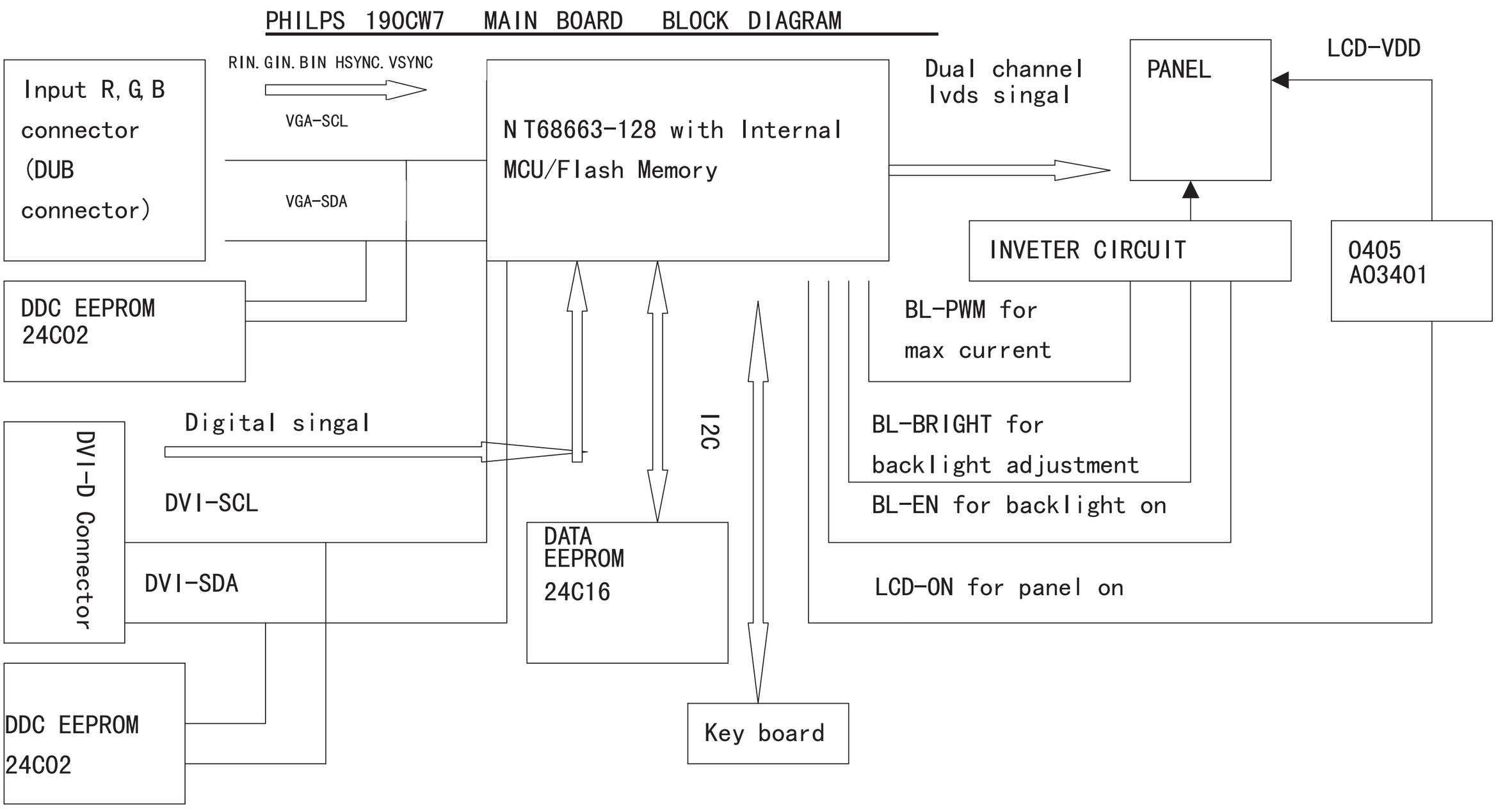
this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

Failure description	Phenomenon
Vertical block defect	
Vertical dim lines	
Vertical lines defect (Always bright or dark)	
Horizontal block defect	
Horizontal dim lines	
Horizontal lines defect (Always bright or dark)	
Has bright or dark pixel	
Polarizer has bubbles	
Polarizer has bubbles	
Foreign material inside polarizer. It shows liner or dot shape.	
Concentric circle formed	
Bottom back light of LCD is brighter than normal	
Back light un-uniformity	
Backlight has foreign material. Black or white color, liner or circular type	

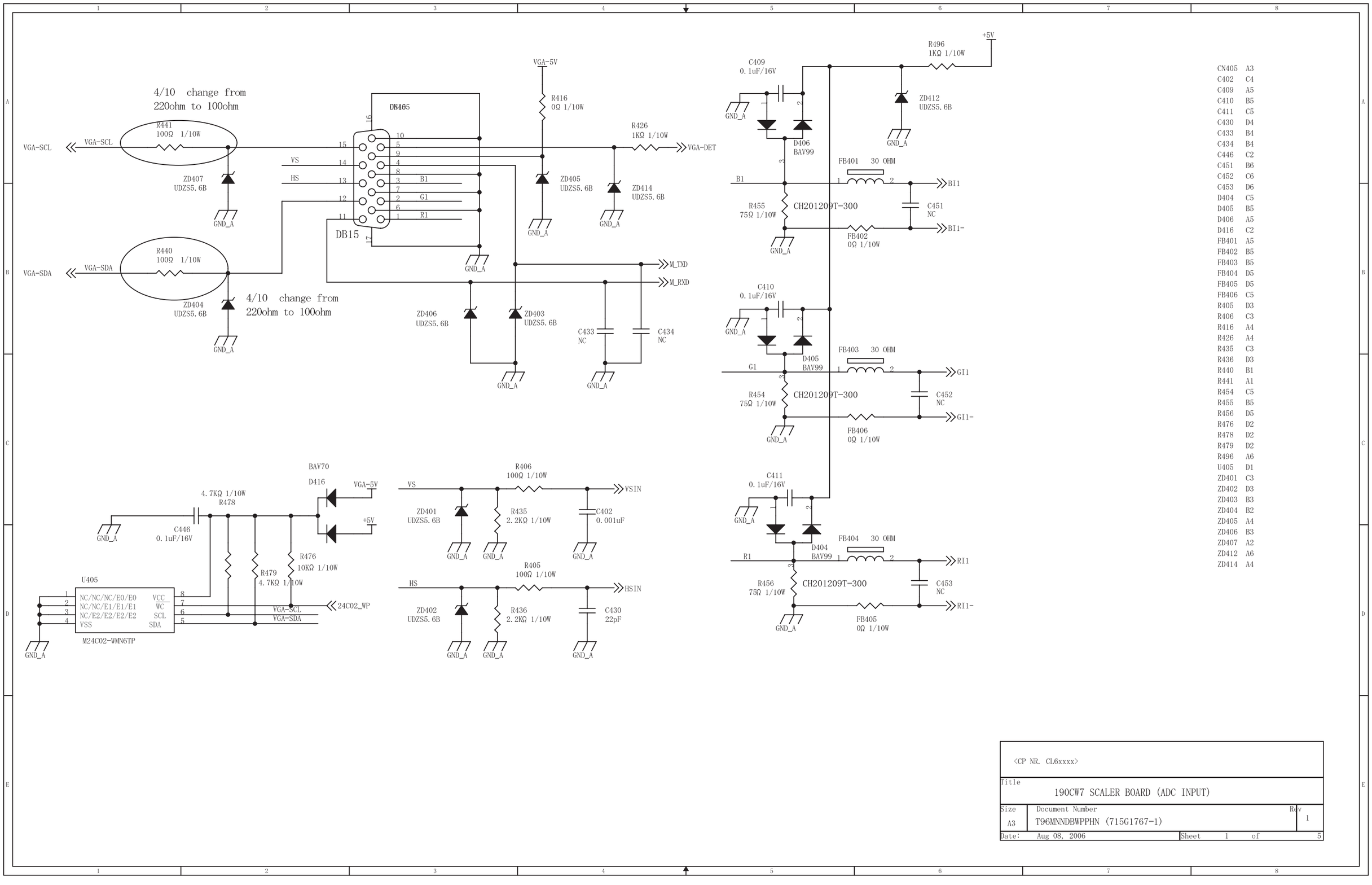
Wiring Diagram



Block Diagram



Scaler Diagram-1



CN405	A3
C402	C4
C409	A5
C410	B5
C411	C5
C430	D4
C433	B4
C434	B4
C446	C2
C451	B6
C452	C6
C453	D6
D404	C5
D405	B5
D406	A5
D416	C2
FB401	A5
FB402	B5
FB403	B5
FB404	D5
FB405	D5
FB406	C5
R405	D3
R406	C3
R416	A4
R426	A4
R435	C3
R436	D3
R440	B1
R441	A1
R454	C5
R455	B5
R456	D5
R476	D2
R478	D2
R479	D2
R496	A6
U405	D1
ZD401	C3
ZD402	D3
ZD403	B3
ZD404	B2
ZD405	A4
ZD406	B3
ZD407	A2
ZD412	A6
ZD414	A4

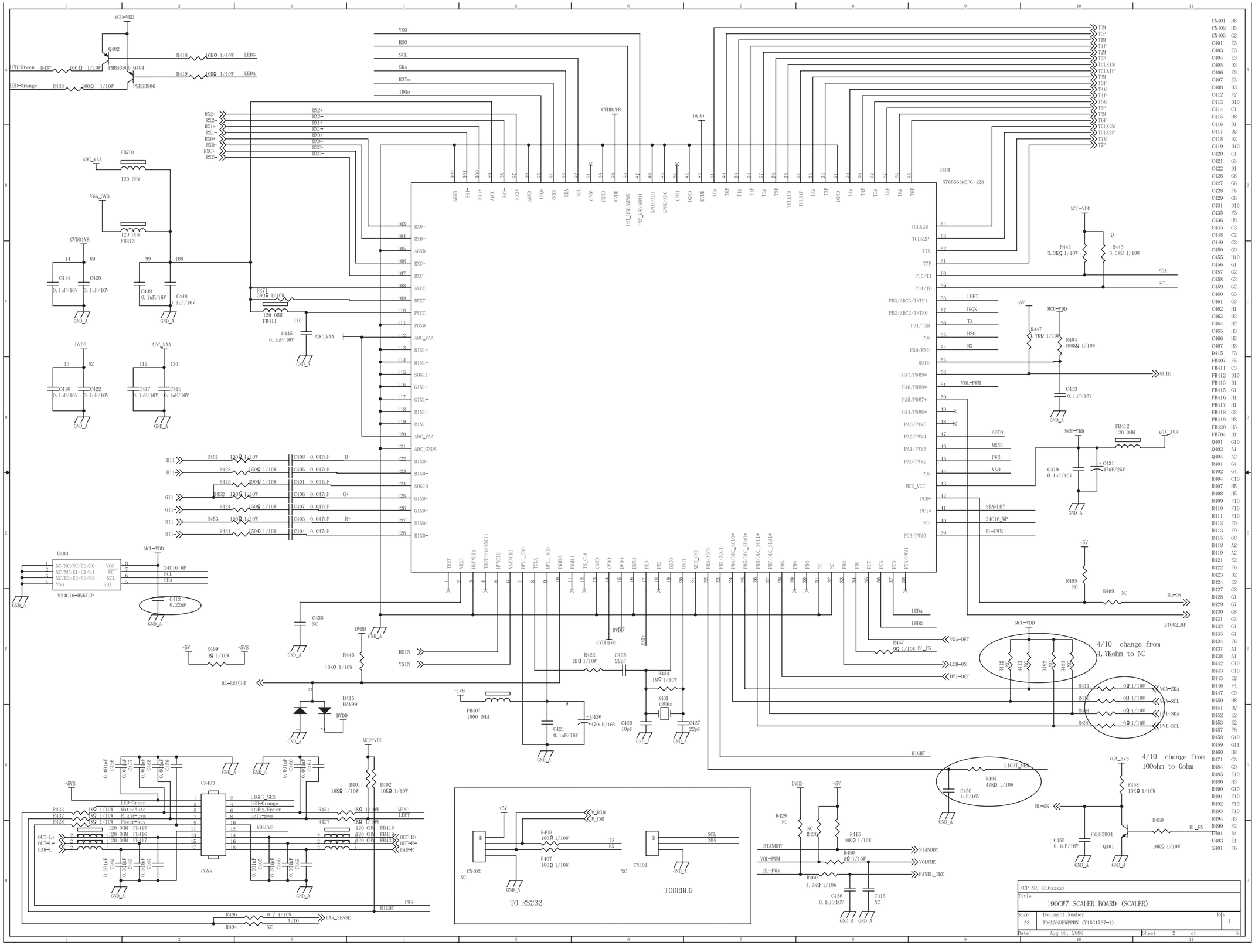
<CP NR. CL6xxxx>

Title: 190CW7 SCALER BOARD (ADC INPUT)

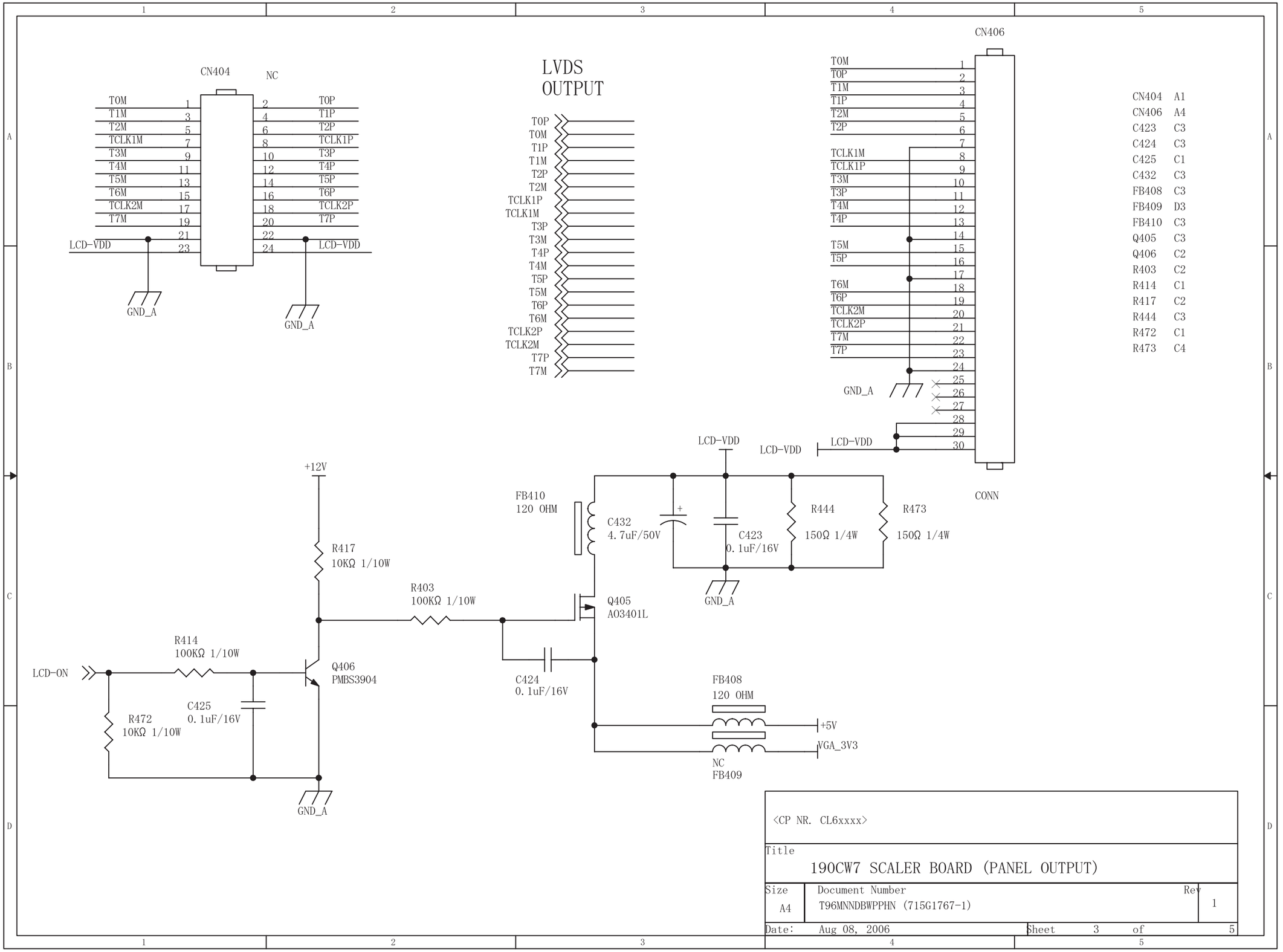
Size	Document Number	Rev
A3	T96MNNDBWPPHN (715G1767-1)	1

Date: Aug 08, 2006 Sheet 1 of 5

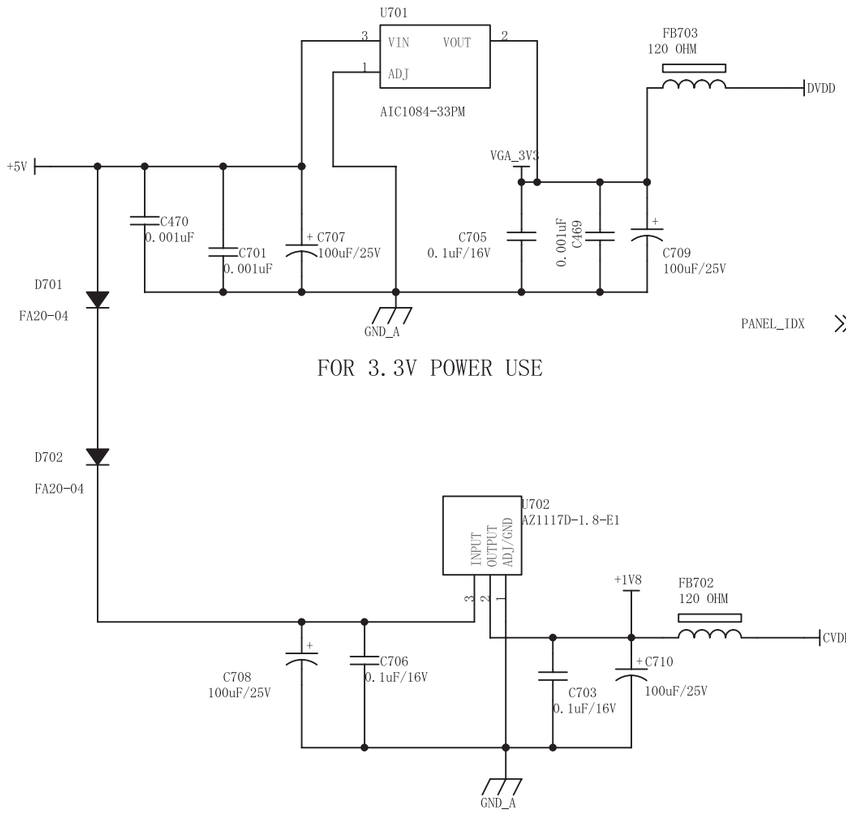
Scaler Diagram-2

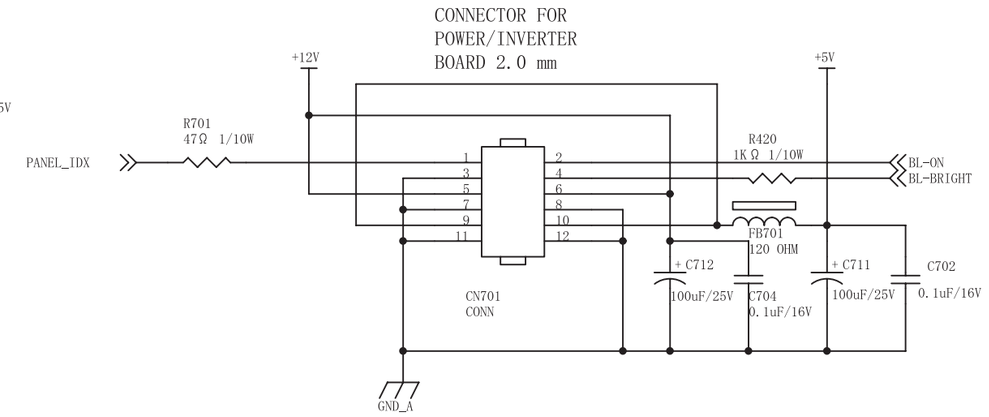


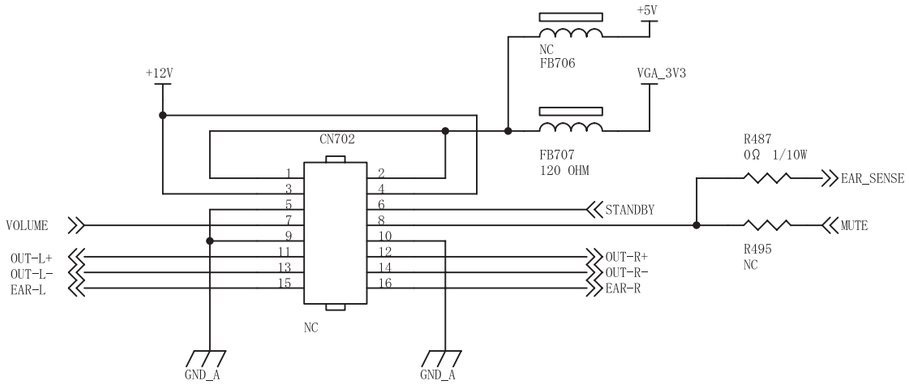
Scaler Diagram-3



Scaler Diagram-4







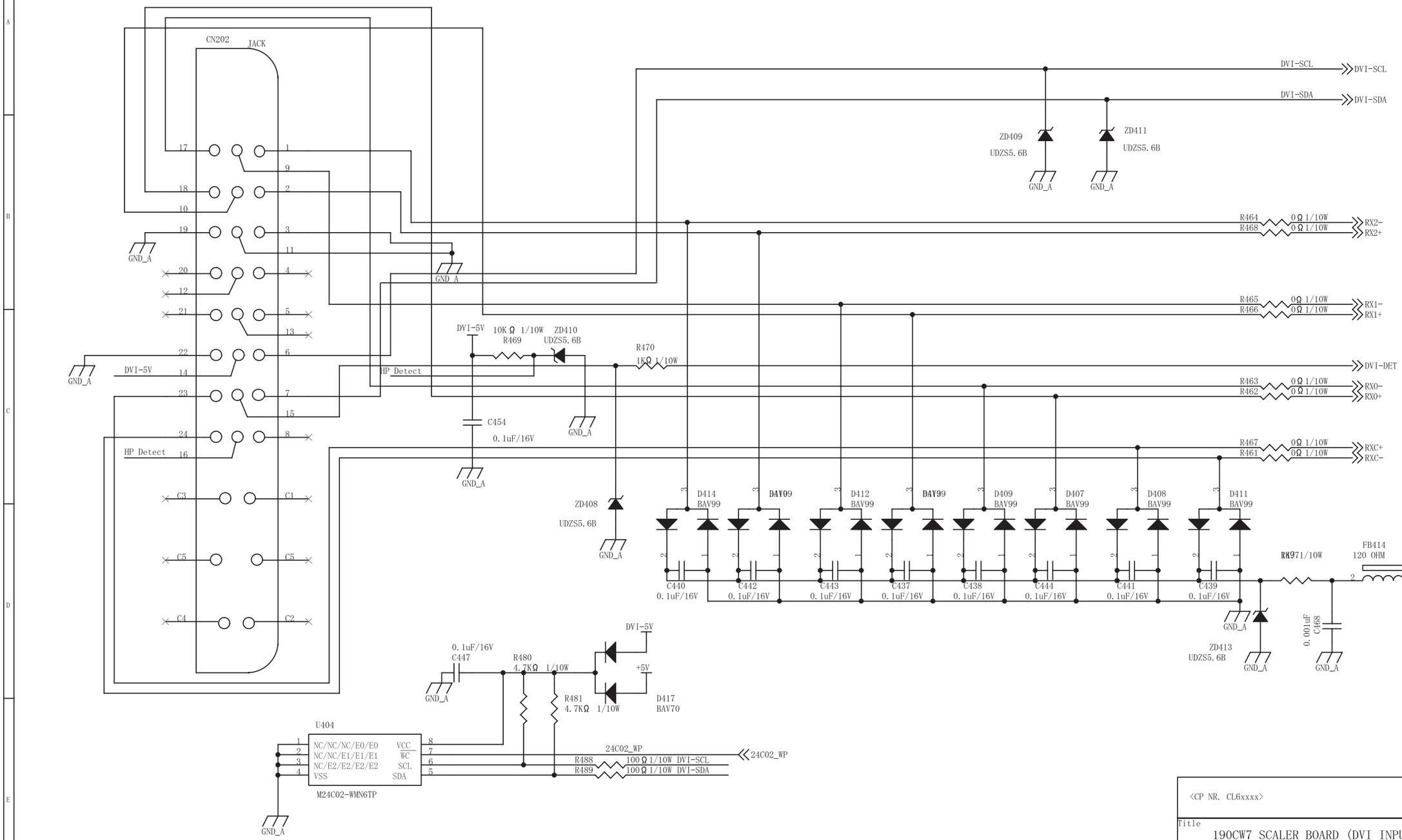
CN701	B5
CN702	C5
C469	A3
C470	A1
C701	A2
C702	B6
C703	C3
C704	B6
C705	A3
C706	C2
C707	A2
C708	C2
C709	A3
C710	C3
C711	B6
C712	B5
D701	A1
D702	B1
FB701	B6
FB702	C3
FB703	A3
FB706	C5
FB707	C5
R420	B6
R487	C6
R495	C6
R701	B4
U701	A2
U702	B2

<CP NR. CL6xxxx>

Title: 190CW7 SCALER BOARD (SCALER POWER)

Size	Document Number	Rev
A3	T96MNNDBWPPHN (715G1767-1)	1

Date: Aug 08, 2006 Sheet 4 of 5



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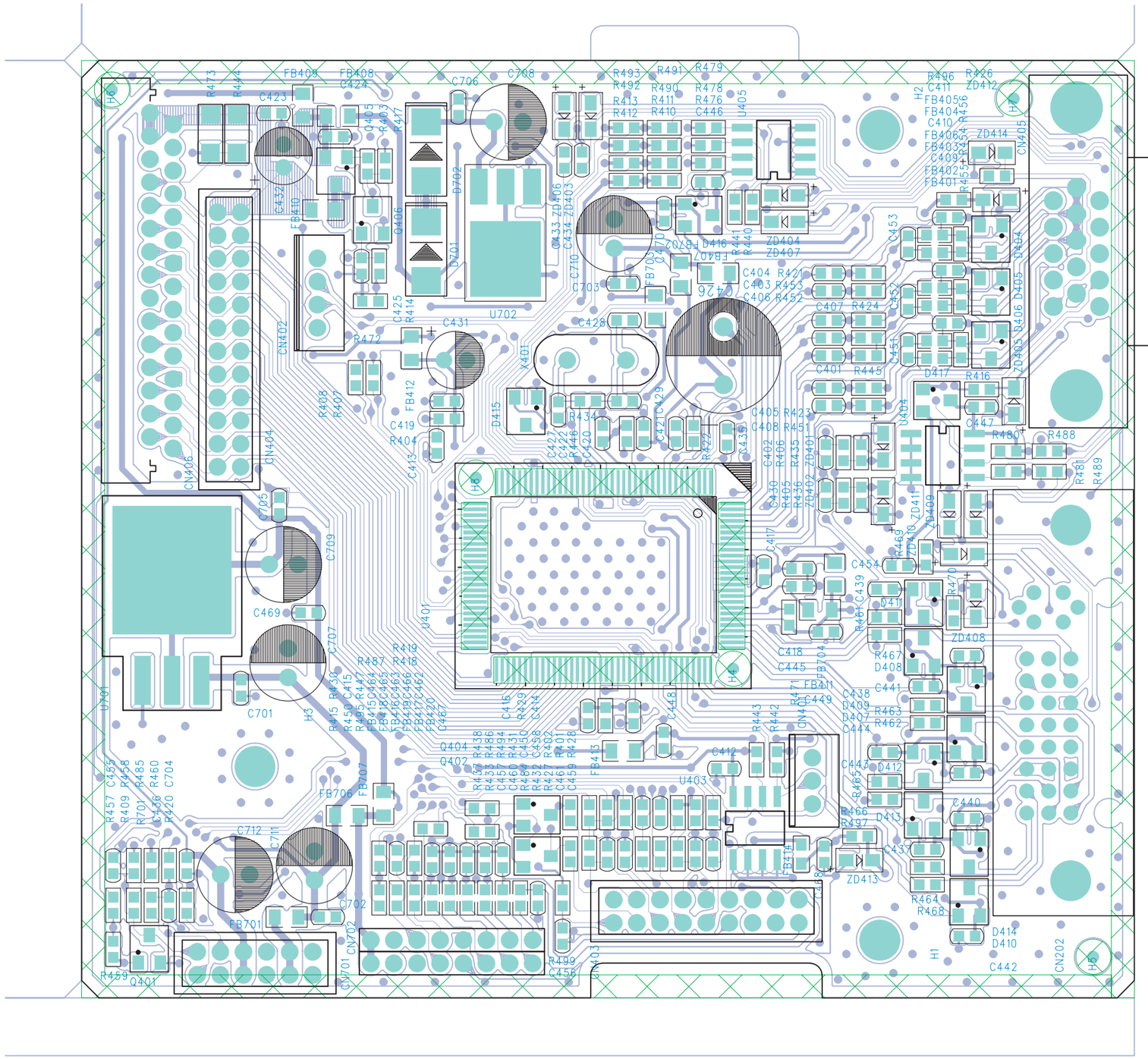
C437	D5
C438	D5
C439	D7
C440	D4
C441	D6
C442	D4
C443	D5
C444	D6
C447	D3
C454	C3
C468	D7
D407	C6
D408	C6
D409	C5
D410	C4
D411	C7
D412	C5
D413	C5
D414	C4
D417	D3
FB414	D7
R461	C7
R462	C7
R463	C7
R464	B7
R465	B7
R466	B7
R467	C7
R468	B7
R469	C3
R470	C4
R480	D3
R481	D3
R488	E3
R489	E3
R497	D7
U404	E2
ZD408	C4
ZD409	B6
ZD410	C3
ZD411	B6
ZD413	D7

<CP NR. CL6xxxx>

Title: 190CW7 SCALER BOARD (DVI INPUT)

Size	Document Number	Rev
A3	T96MNNDBWPPHN (715G1767-1)	1
Date: Aug 08, 2006	Sheet 5 of 5	

Scaler Board C.B.A.-1



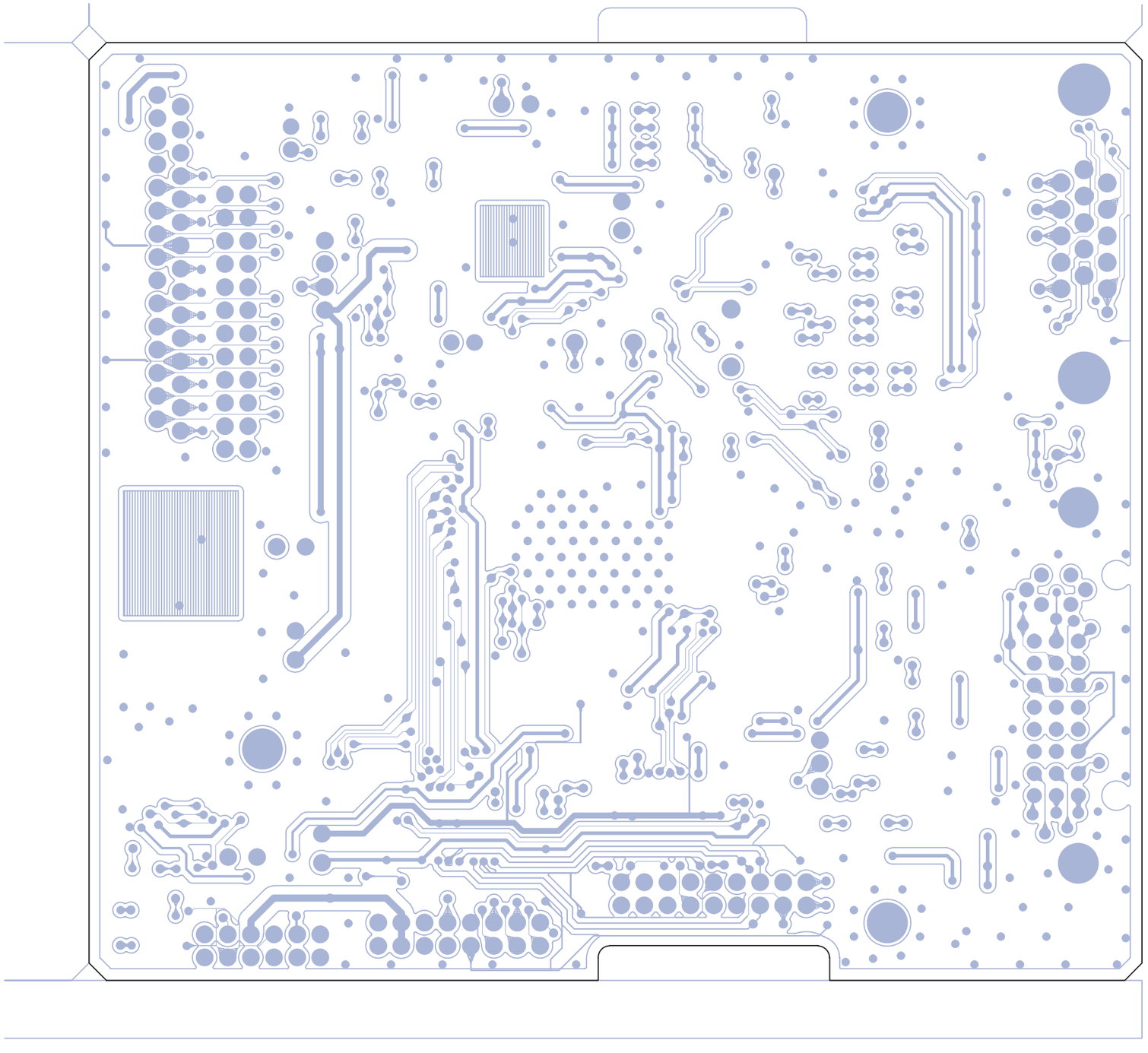
DATE	2006-3-10
F/N	715G1767-1
LAYER	2
LAYOUT	cheng

MODEL: 715G1767-1

HS TOP SIDE

Tel: (03)5630585 ; Fax: (03)5630587

Scaler Board C.B.A.-2



DATE	2006-3-10
F/N	715G1767-1
LAYER	2
LAYOUT	cheng

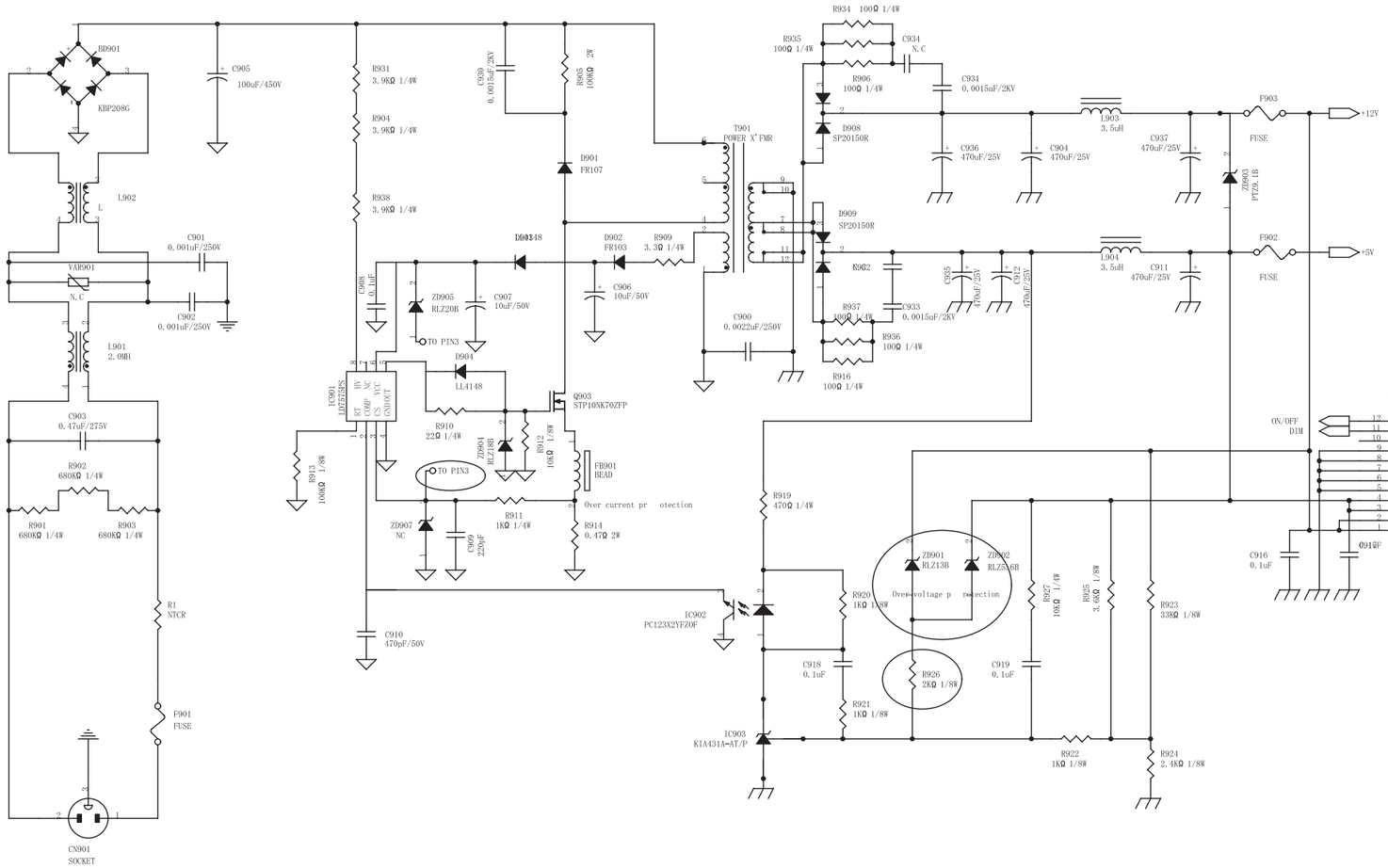
MODEL: 715G1767-1

BOTTOM SIDE

HS

Tel: (03)5630585 ; Fax: (03)5630587

Power Diagram-1

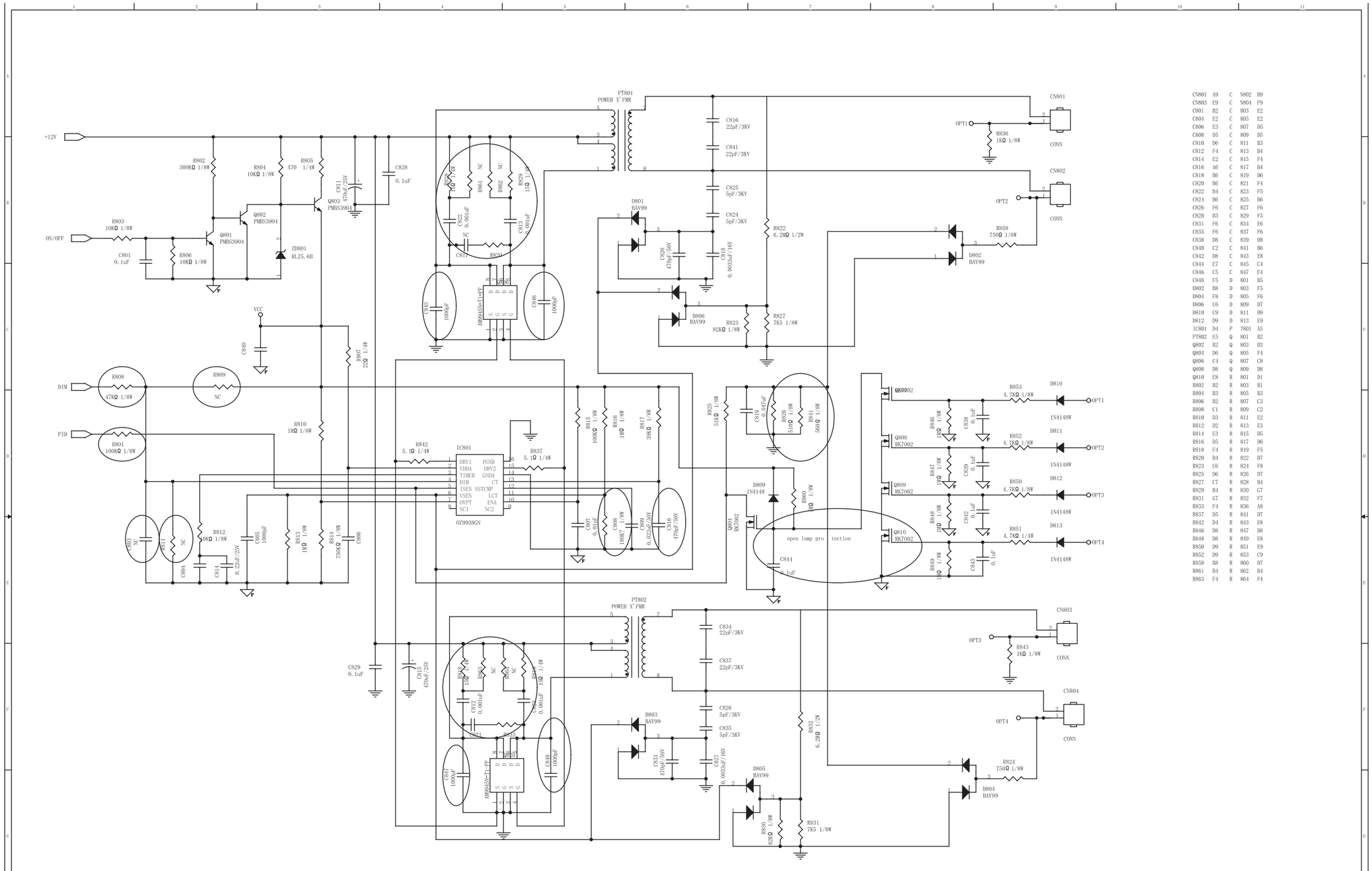


ZD907	E4	BD901	B1
CN901	F2	CN902	D9
C900	D5	C901	C2
C902	D2	C903	D2
C904	C7	C905	B2
C906	C4	C907	D4
C908	D3	C909	E4
C910	E3	C911	C8
C912	C7	C916	E8
C917	E9	C918	E6
C919	E7	C930	B4
C931	B6	C932	C6
C933	D6	C934	B6
C935	C6	C936	C6
C937	C8	D901	C4
D902	C5	D903	C4
D904	D4	D908	B6
D909	C6	FB901	D4
F901	F2	F902	C8
F903	C8	IC901	D3
IC902	E5	IC903	F5
L901	D2	L902	C2
L903	B7	L904	C7
Q903	D4	R1	E2
R901	E1	R902	E2
R903	E2	R904	C3
R905	B4	R906	B6
R909	C5	R910	D4
R911	E4	R912	D4
R913	D3	R914	E4
R916	D6	R919	E5
R920	E6	R921	F6
R922	F7	R923	E8
R924	F8	R925	E7
R926	E6	R927	E7
R931	B3	R934	B6
R935	B6	R936	D6
R937	D6	R938	C3
T901	C5	VAR901	C2
ZD901	E6	ZD902	E7
ZD903	C8	ZD904	D4

PWPC942MR1P O/P 12V & 5V POWER

CP NR. CL6xxxx		
Title: 190CW7 POWER BOARD (POWER)		
Size: A3	Document Number: T96MNNDBWPPHN (715G1899-1)	Rev: 1
Date: Aug 11, 2006	Sheet 1 of 2	

Power Diagram-2



CN801	A9	C	N802	B9
CN803	E9	C	N804	F9
C801	B2	C	803	E2
C804	E2	C	805	E2
C806	E3	C	807	D5
C808	D5	C	809	D5
C810	D6	C	811	B3
C812	F4	C	813	B4
C814	E2	C	815	F4
C816	A6	C	817	B4
C818	B6	C	819	D6
C820	B6	C	821	F4
C822	B4	C	823	F5
C824	B6	C	825	B6
C826	F6	C	827	F6
C828	B3	C	829	F3
C831	F6	C	834	E6
C835	F6	C	837	F6
C838	D8	C	839	D8
C840	C2	C	841	B6
C842	D8	C	843	E8
C844	E7	C	845	C4
C846	C5	C	847	F4
C848	F5	D	801	B5
D802	B8	D	803	F5
D804	F8	D	805	F6
D806	C6	D	809	D7
D810	C9	D	811	D9
D812	D9	D	813	E9
IC801	D4	P	T801	A5
PT802	E5	Q	801	B2
Q802	B2	Q	803	B3
Q804	D6	Q	805	F4
Q806	C4	Q	807	C8
Q808	D8	Q	809	D8
Q810	E8	R	801	D1
R802	B2	R	803	B1
R804	B3	R	805	B3
R806	B2	R	807	C3
R808	C1	R	809	C2
R810	D3	R	811	E2
R812	B2	R	813	E3
R814	E3	R	815	D5
R816	D5	R	817	D6
R818	F4	R	819	F5
R820	B4	R	822	B7
R823	C6	R	824	F8
R825	D6	R	826	D7
R827	C7	R	828	B4
R829	B4	R	830	G7
R831	G7	R	832	F7
R833	F4	R	836	A8
R837	D5	R	841	D7
R842	B4	R	843	E8
R846	D8	R	847	D8
R848	D8	R	849	E8
R850	D9	R	851	E9
R852	D9	R	853	C9
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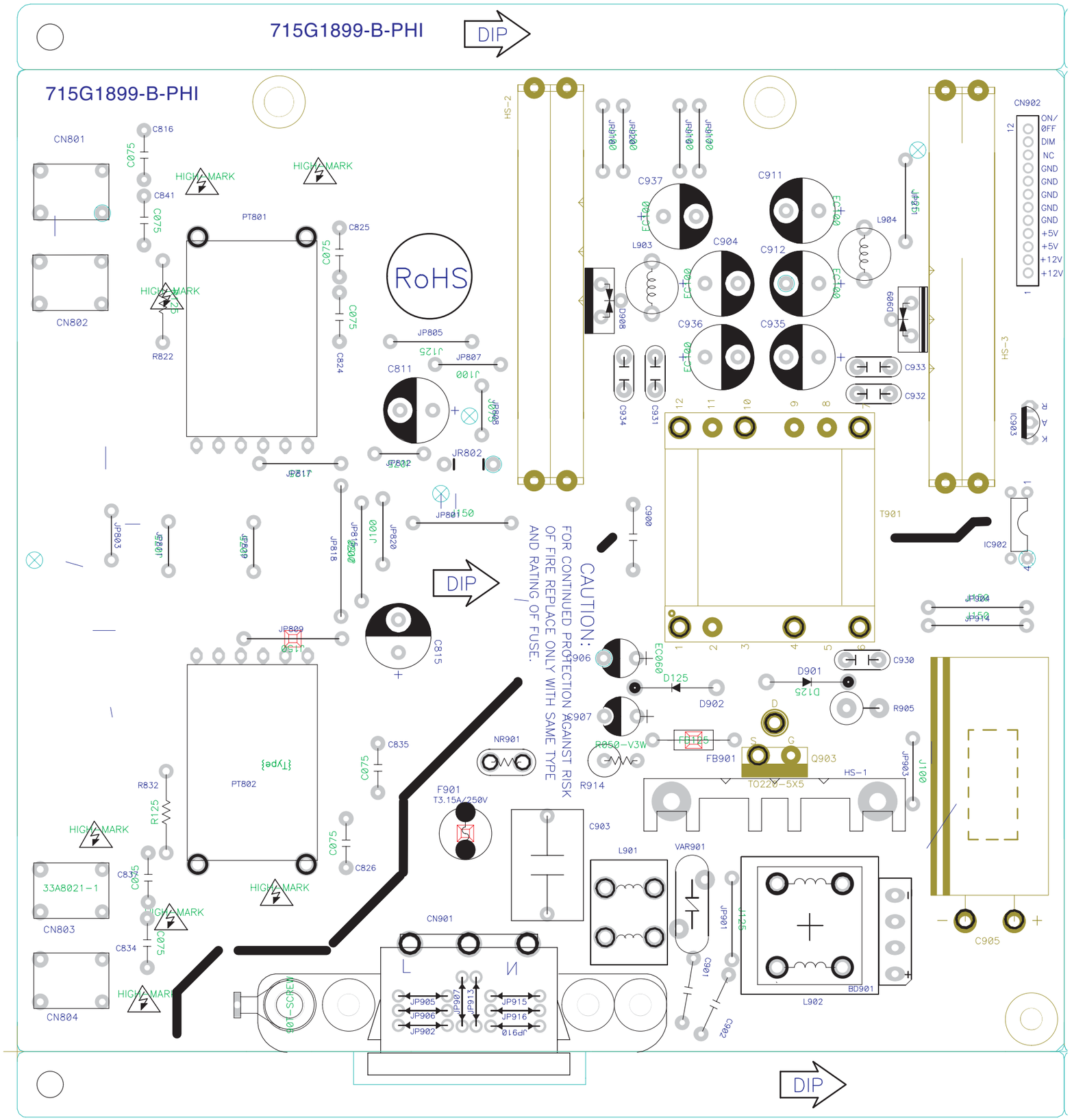
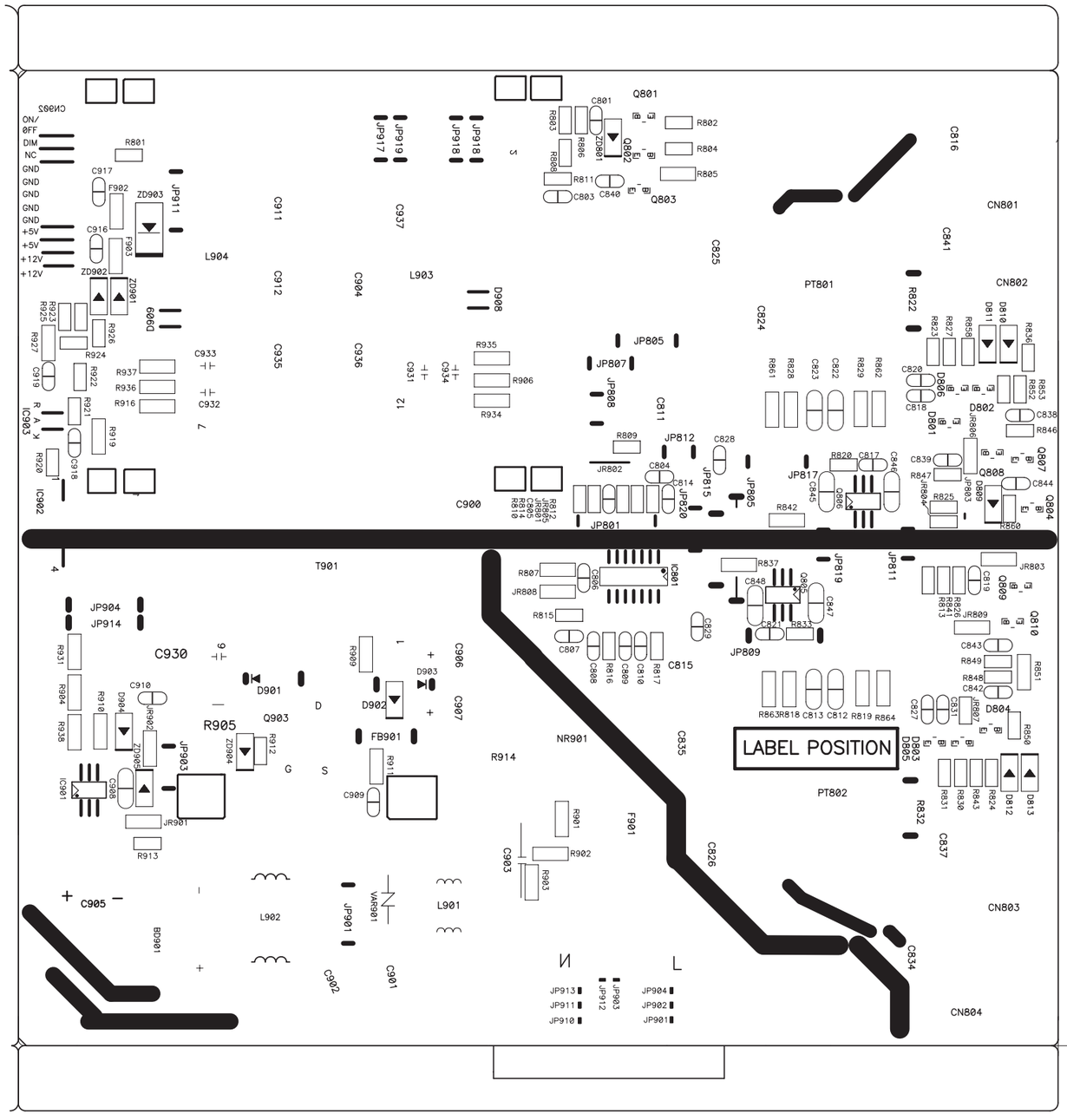
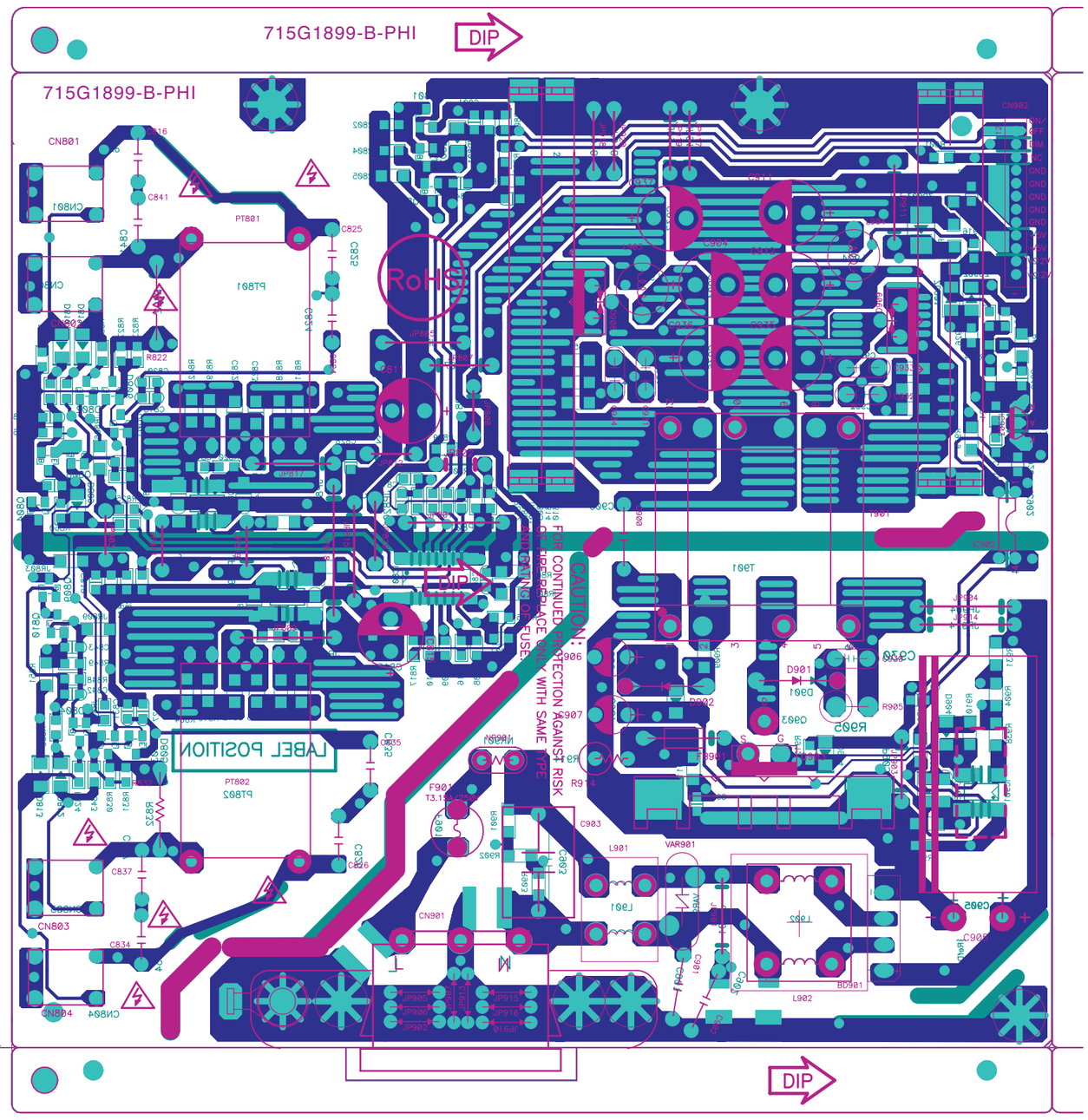
R861	B4	R	862	B4
R863	F4	R	864	F4

Power Board C.B.A.-1

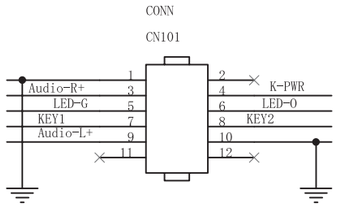


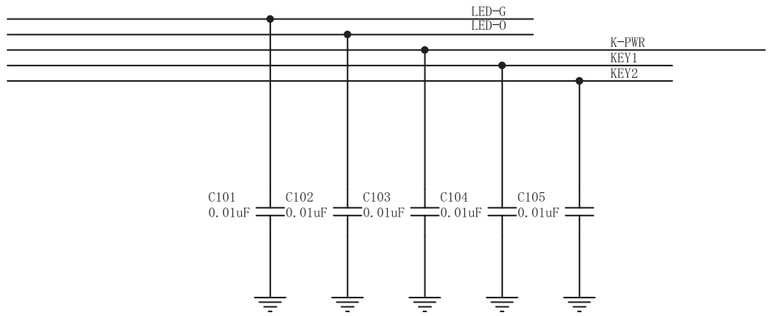
Power Board C.B.A.-2

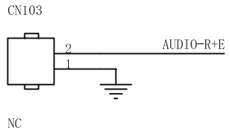


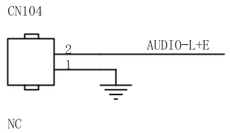


Control Diagram

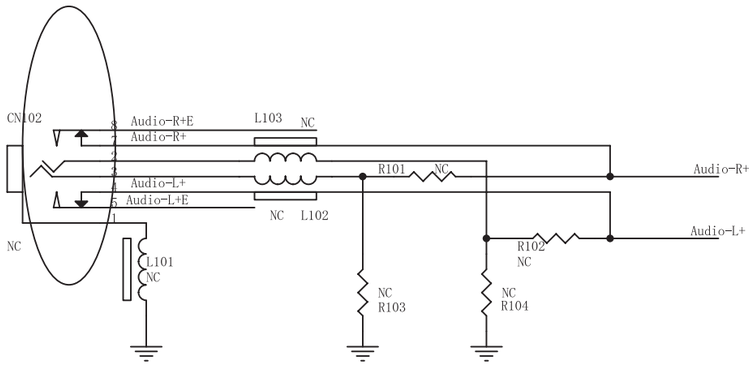


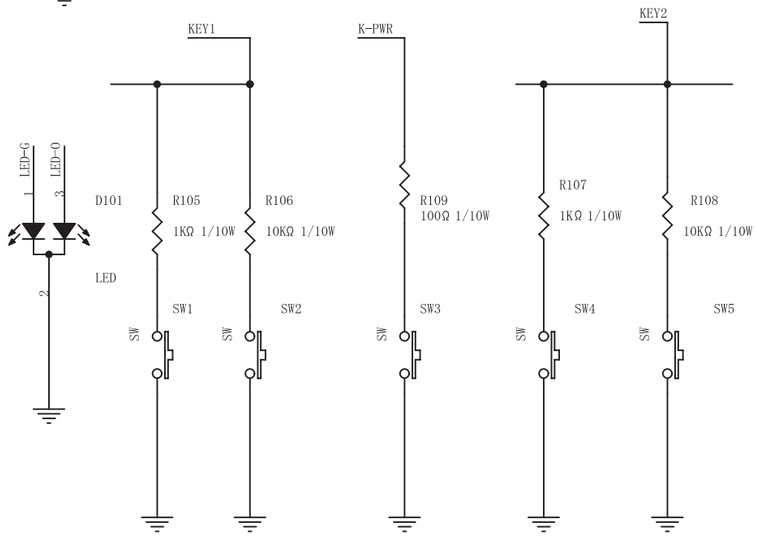


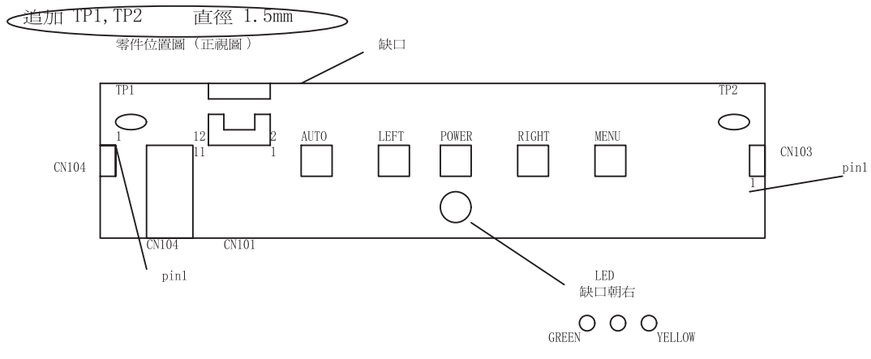




CN101	A1
CN102	C1
CN103	A5
CN104	B5
C101	B3
C102	B3
C103	B3
C104	B4
C105	B4
D101	C4
L101	C1
L102	C2
L103	C2
R101	C2
R102	C3
R103	C2
R104	C2
R105	C4
R106	C4
R107	C5
R108	C6
R109	C5
SW1	C4
SW2	C4
SW3	C5
SW4	C5
SW5	C6

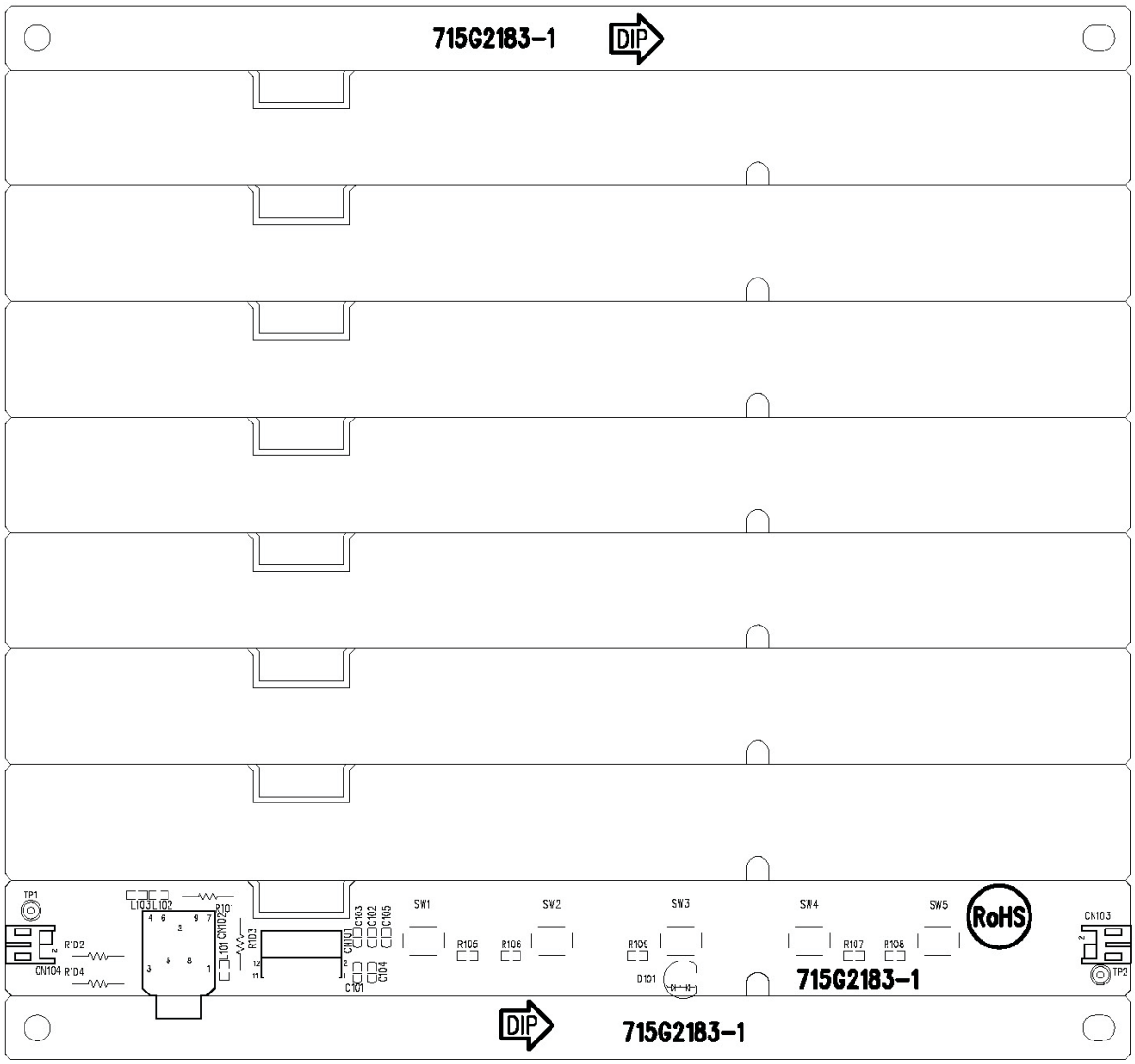






Scaler board KEY1&KEY2 Pull High 10k ohm

CP NR.	CL6xxxx
Title	190CW7 KEY CONTROL BOARD
Size	A3
Document Number	T96MNNDBWPPHN (715G2183-1)
Rev	1
Date:	Aug 10, 2006
Sheet	1 of 1


715G2183-1
DIP
TP1
CN104
R102
R104
L103
L102
R101
CN102
L101
R103
CN101
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C105
C104
C101
SW1
SW2
SW3
SW4
SW5
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RoHS
CN103
TP2
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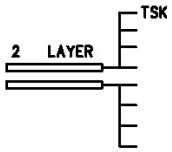
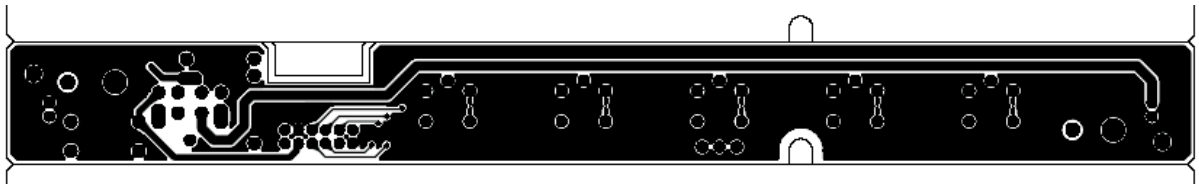
DIP
715G2183-1


TSK
2 LAYER



GENERAL PRODUCT SPECIFICATION

PHILIPS

HUDSON7-190CW7
GENERAL PRODUCT
SPECIFICATION

. ANALOG AND DIGITAL DUAL INPUT

. AUTO PICTURE ADJUSTMENT

. 20 FACTORY PRESET MODES AND 40 PRESET MODES WHICH CAN BE RECOVERED TO PRESET MODES, 24 USER MODES.

. USER FRIENDLY OSD DISPLAY FOR MODE IDENTIFICATION /ADJUSTMENT

. MAX. RESOLUTION WXGA+ (1440 * 900) NON-INTERLACED AT 75 HZ

. 19"W COLOR TFT LCD FLAT PANEL

. EASY TILT BASE

. FULL RANGE POWER SUPPLY 100 - 240 VAC

. CE ENVIRONMENTAL POLICY

. ANTI-GLARE TO REDUCE LIGHT REFLECTION

. POWER MANAGEMENT CAPABILITY

. SOG SUPPORT

. TCO ~~03~~ 99

. SMART CONTROL & SMART MANAGEMENT REQUIREMENT

. WEEE REQUIREMENT

. RoHS REQUIREMENT

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CLASS NO.

19 inch TFT WXGA LCD Monitor
TYPE : 190CW7CS/00
BRAND : PHILIPS

8639 000 17256

2006-06-22

NAME				SUPERS.	22	590 — 1	10		A4
TY			CHECK	DATE 2006-06-22	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.				

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GAP BETWEEN PANEL AND FRONT BEZEL < 1.2 MM

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CLASS NO.	19 inch TFT WXGA LCD Monitor TYPE : 190CW7CS/00 BRAND : PHILIPS	8639 000 17256	
2006-06-22			
NAME	SUPERS.	22	590 — 3	10	A4
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PHILIPS

1 FOREWORD

This specification describes a 19"W WXGA+ multi-scan color TFT LCD monitor with max. resolution up to 1440*900/~~76~~ 75Hz non-interlaced.
All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follow strictly after panel specification.

2 PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS global styling cabinet which has an integrated tilt base.

2.1 LCD

2.1.1 Type NR. : M190A1

Outside dimensions	: 427.2(w)*277.4(h)*17.0(d) (Typ) mm
Pitch (mm)	: 0.285 mm x 0.285 mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.2M colors (6 bits+FRC)
Backlight	: CCFL edge light system
Active area(WxH)	: 410.4 x 256.5mm (19.05" diagonal)
View angle (CR>10)	: 75/75 (min), 85/85 (typ) for Horizontal & 70/70 (min), 80/80 (typ) for Vertical
Contrast ratio	: 850:1(Typ.) 500:1(Min.)
White luminance	: Original color 230 nits (Min), 300 nits (Typ.)
Gate IC	:
Source IC	:
Response time	: 5ms (typ)

2.2 Scanning frequencies

Hor.	: 30 - 83 K Hz
Ver.	: 55 - 75Hz
Video dot rate	: <140 MHz
Power input	: 90-264 V AC, 50/60 ± 2 Hz
Power consumption	: < 36W(typ.) ~~maximum~~

2.3 Ambient temperature : 0 °C - 35 °C

3 Electrical characteristics

3.1 Interface signals

1). D-Sub Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC

Sync. : Separate sync TTL level , input impedance 2.2k ohm terminate
Hsync Positive/Negative
Vsync Positive/Negative
Composite sync TTL level, input impedance 2.2k ohm terminate (Positive/Negative)
Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

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2). Intel DVI Digital

Input signal : Four channel TMDS signal

3.2 Interface

3 .2.1 D-Sub Cable

Length : 1.8 M +/- 50 mm (fixed) , fix in monitor and with transplant pin protect cover.

Connector type : D-Sub male with DDC2B pin assignments.
Blue connector thumb-operated jack screws

pin assignment :

PIN No.	SIGNAL
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	Cable Detect (GND)
6	Red GND
7	Green GND
8	Blue GND
9	DDC +3.3V or +5V
10	Logic GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

3.2.2 DVI Cable

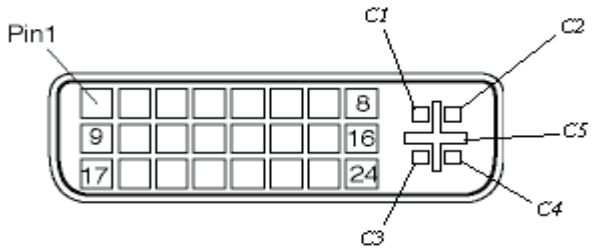
The input signals are applied to the display through DVI-D cable.

Length : 1.8 M +/- 50mm (fixed)

Connector type : DVI-D male with DDC2B pin assignments

White connector thumb-operated jack screws

pin assignment :



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CLASS NO.

19 inch TFT WXGA LCD Monitor
TYPE : 190CW7CS/00
BRAND : PHILIPS

8639 000 17256

2006-06-22

NAME SUPERS. 22 590 — 5 10 A4

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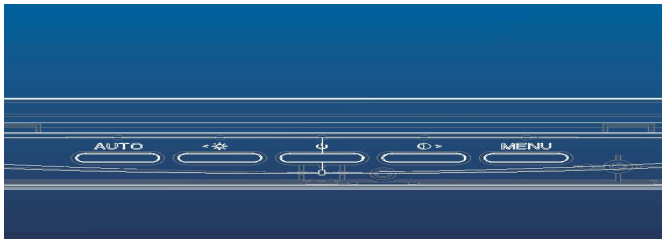
Note the mark "*" for DVI-I to Dsub only

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	* Analog V-sync
9	TMDS data1-
10	TMDS data1+
11	TMDS data1 shield
12	NC
13	NC
14	+5V
15	Ground(return for +5V and H/V-sync)(Cable Detect)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-
C1	* Analog R
C2	* Analog G
C3	* Analog B
C4	* Analog H-sync
C5	* Analog GND (Analog R, G, B return)

3.2.3 Software control functions via OSD/control adjustable functions:
OSD control bottom sequence.



Auto - Left (Brightness) - Power - Right (Contrast) - Menu

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GENERAL PRODUCT SPECIFICATION(Continued)

(1) PC Analog Signal Input Mode

Adjustable functions:

1st LEVEL	2nd LEVEL	3rd LEVEL
MONITOR SETUP		
Exit		
Brightness & Contrast	Brightness Contrast	
Color	Original Color, 9300K,6500K, sRGB, User Define	
Position	Horizontal Vertical	
Input Selection	Analog [Digital]	
More Settings	Language	/00,/05 : English, Spanish, French, German, Italian and Russian /27 : English, French, Spanish, Portuguese & S. Chinese /69,/75,/93,/96 : English, Spanish, French, German, Italian and S. Chinese
	Phase/ Clock	Phase Clock
	OSD Settings	Horizontal Vertical
Reset	No Yes	
Serial No.:		
(Serial No.)		
Timing Mode		
~~Up/Down~~ left / right to Move and to Adjust, ~~ok~~ menu to Confirm		

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(2) Digital interface OSD :

Adjustable functions:

1st LEVEL	2nd LEVEL	3rd LEVEL
MONITOR SETUP		
Exit		
Brightness & Contrast	Brightness Contrast	
Color	Original Color, 9300K,6500K, sRGB, User Define	
Position	Horizontal Vertical	
Input Selection	Analog,[Digital]	
More Settings	Language	/00 : English, Espanol, Frencais, Deutsch, Italiano, , Russian /27 : English, Espanol, Frencais, Portuguess, S-Chinese /69,/75,/93,/96 : English, Espanol, Frencais, Deutsch, Italiano, , S-Chinese
	Phase/ Clock	Phase Clock
	OSD Settings	Horizontal Vertical
Reset	No Yes	
Serial No.:		
(Serial No.)		
Timing Mode		
~~Up/Down~~ left / right to Move and to Adjust,~~ok~~ menu to Confirm		

Remark : < to Adjust > / < to Move > - < to Confirm >
Remark : Color Temperature factory default setting = see 190CW7 SKU.

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GENERAL PRODUCT SPECIFICATION(Continued)

PHILIPS

3.3 Timing requirement

3.3.1 Mode storing capacity

Factory preset modes : 20
Preset modes : 40
User define modes : 24

Note:
1. Screen displays perfect picture at 17 factory-preset modes.
2. Screen displays visible picture with OSD warning when input modes are the 33 preset modes

3.3.2 Factory preset modes (20 modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	Item	H.Freq. (KHz)	Mode	Resolution	V.Freq . (Hz)
1	31.469	DOS	720x400	70.087	11	60.023	VESA	1024x768	75.029
2	31.469	VESA	640x480	59.940	12	67.500	VESA	1152x864	75.000
3	37.861	VESA	640x480	72.809	13	47.712	VESA	1360x768	60.015
4	37.500	VESA	640x480	75.000	14	55.935	VESA	1440x900	59.887
5	35.156	VESA	800x600	56.250	15	70.635	VESA	1440x900	74.984
6	37.879	VESA	800x600	60.317	16	35.000	MACINTOSH	640x480	67.000
7	48.077	VESA	800x600	72.188	17	49.700	MACINTOSH	832x624	75.000
8	46.875	VESA	800x600	75.000	18	60.000	VESA	1280x960	60.000
9	48.363	VESA	1024x768	60.004	19	79.976	VESA	1280x1024	75.025
10	56.476	VESA	1024x768	70.069	20	64.744	VESA	1400x1050	59.948

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3.3.3 Preset Modes (~~33~~ 40 modes)

MODE NO.	1	2	3	4
RESOLUTION	640 x 350	720 x 400	640 x 480	640 x 480
Dot clock(MHz)	25.175	28.321	25.175	30.24
f h	31.469kHz	31.468kHz	31.5kHz	35 kHz
A (us)	31.778(800 dots)	31.78(900dots)	31.778(800 dots)	28.571 (864 dots)
B (us)	3.813(96 dots)	3.813(108dots)	3.813(96 dots)	2.116 (64 dots)
C (us)	1.907(48 dots)	1.907(54dots)	1.907(48 dots)	3.175(96 dots)
D (us)	25.422(640 dots)	25.42(720dots)	25.422(640 dots)	21.164(640 dots)
E (us)	0.636(16 dots)	0.636(18dots)	0.636(16 dots)	2.116(64 dots)
f v	70Hz(70.09)	70Hz(70.085)	60Hz	67Hz
O (ms)	14.27(449 lines)	14.27(449 lines)	16.683 (525 lines)	15 (525 lines)
P (ms)	0.064(2 lines)	0.064(2 lines)	0.064 (2 lines)	0.086(3 lines)
Q (ms)	1.907(60 lines)	1.080(34 lines)	1.049 (33 lines)	1.114(39 lines)
R (ms)	11.12(350 lines)	12.71(400 lines)	15.253 (480 lines)	13.714(480 lines)
S (ms)	1.175(37 lines)	0.381(13 lines)	0.317 (10 line)	0.086(3 line)
SYNC. H/V POLARITY	+/-	-/+	- / -	- / -
SEP . SYNC	Y	Y	Y	Y

MODE NO.	5	6	7	8
RESOLUTION	640 x 480	640 x 480	640x480	800 x 600
Dot clock(MHz)	31.500	31.501	36	36
f h	37.861kHz	37.5kHz	36kHz	35.2kHz
A (us)	26.413(832 dots)	26.667 (840 dots)	23.111 (832 dots)	28.444(1024 dots)
B (us)	1.270(40 dots)	2.032 (54 dots)	1.556 (56 dots)	2.000 (72 dots)
C (us)	3.810(120 dots)	3.81 (120 dots)	2.222 (80 dots)	3.556 (128 dots)
D (us)	20.317(640 dots)	20.317 (640 dots)	17.778 (640 dots)	22.222(800 dots)
E (us)	1.016(32 dots)	0.508 (26 dots)	1.555 (56 dots)	0.666 (24 dots)
f v	72.809Hz	75Hz	85Hz	56Hz
O (ms)	13.735(520 lines)	13.333 (500 lines)	11.763 (509 lines)	17.778 (625 lines)
P (ms)	0.079(3 lines)	0.08 (3 lines)	0.069 (3 lines)	0.057 (2 lines)
Q (ms)	0.528(20 lines)	0.427 (16 lines)	0.578 (25 lines)	0.626 (22 lines)
R (ms)	12.678(480 lines)	12.8 (480 lines)	11.093 (480 lines)	17.066 (600 lines)
S (ms)	0.45(17 lines)	0.026 (1 lines)	0.023 (1 lines)	0.029 (1 line)
SYNC. H/V POLARITY	-/-	- / -	-/-	+ / +
SEP . SYNC	Y	Y	Y	Y

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GENERAL PRODUCT SPECIFICATION(Continued)

MODE NO.	9	10	11	12
RESOLUTION	800 x 600	800 x 600	800 x 600	800 x 600
Dot clock(MHz)	40	50	49.498	56.251
f h	37.9kHz	48.077kHz	46.9kHz	53.7kHz
A (us)	26.4 (1056 dots)	20.80 (1040dots)	21.333 (1056 dots)	18.631 (1048 dots)
B (us)	3.2 (128 dots)	2.400 (120 dots)	1.616 (80 dots)	1.138 (64 dots)
C (us)	2.2 (88 dots)	1.280 (64 dots)	3.232 (160 dots)	2.702 (152 dots)
D (us)	20 (800 dots)	16.00 (800 dots)	16.162 (800 dots)	14.222 (800 dots)
E (us)	1 (40 dots)	1.120 (56 dots)	0.323 (16 dots)	0.569 (32 dots)
f v	60Hz	72Hz (72.188)	75Hz	85Hz
O (ms)	16.579 (628 lines)	13.85 (666 lines)	13.333 (625 lines)	11.756(631 lines)
P (ms)	0.106 (4 lines)	0.125 (6 lines)	0.064 (3 lines)	0.056 (3 lines)
Q (ms)	0.607 (23 lines)	0.478 (23 lines)	0.448 (21 lines)	0.503 (27 lines)
R (ms)	15.84 (600lines)	12.48 (600 lines)	12.8 (600 lines)	11.179 (600 lines)
S (ms)	0.026 (1 line)	0.770 (37 line)	0.021 (1 line)	0.018 (1 lines)
SYNC. H/V POLARITY	+ / +	+ / +	+ / +	+ / +
SEP . SYNC	Y	Y	Y	Y

MODE NO.	13	14	15	16
RESOLUTION	832 x 624	1024 x 768	1024 x 768	1024 x 768
Dot clock(MHz)	57.28	65	75	78.75
f h	49.7kHz	48.363kHz	56.5kHz	60kHz
A (us)	20.11(1152 dots)	20.677(1344 dots)	17.707(1328 dots)	16.66 (1312dots)
B (us)	1.117(64 dots)	2.092(136 dots)	1.813(136 dots)	1.219 (96 dots)
C (us)	3.91(224 dots)	2.462(160 dots)	1.920(144 dots)	2.235 (176 dots)
D (us)	14.52(832 dots)	15.754(1024 dots)	13.653(1024 dots)	13.003 (1024 dots)
E (us)	0.563(32 dots)	0.369(24 dots)	0.321 (24 dots)	0.203 (16 dots)
f v	75Hz	60.004Hz	70.004Hz	75Hz (75.000)
O (ms)	13.41(667 lines)	16.666(806 lines)	14.272(806 lines)	13.328 (800 lines)
P (ms)	0.06(3 lines)	0.124(6 lines)	0.106(6 lines)	0.05(3 lines)
Q (ms)	0.784(39 lines)	0.600(29 lines)	0.514(29 lines)	0.446 (28 lines)
R (ms)	12.55(624 lines)	15.880(768 lines)	13.599(768 lines)	12.80 (768 lines)
S (ms)	0.016(1 lines)	0.062(3 lines)	0.053(3 lines)	0.017 (1 line)
SYNC. H/V POLARITY	+/+	- / -	-/-	+ / +
SEP . SYNC	Y	Y	Y	Y

MODE NO.	17	18	19	20
RESOLUTION	1024 x 768	1024 x 768	1152 x 864	1152 x 864
Dot clock(MHz)	83.096	94.5	79.9	94.5
f h	61.1kHz	68.7kHz	54.0kHz	63.9kHz
A (us)	16.367 (1360dots)	14.561 (1376 dots)	18.523(1480 dots)	15.661(1480 dots)
B (us)	1.348 (112 dots)	1.016 (96 dots)	1.952(156 dots)	1.016(96 dots)
C (us)	2.022 (168 dots)	2.201 (208 dots)	1.352(108 dots)	1.116(105 dots)
D (us)	12.323 (1024 dots)	10.836 (1024 dots)	14.418(1152 dots)	12.19(1152 dots)
E (us)	0.674 (56 dots)	0.508 (48 dots)	0.801(64 dots)	1.339(127 dots)
f v	76Hz	85Hz	60Hz	70Hz
O (ms)	13.142 (803 lines)	11.765 (808 lines)	16.671(900lines)	14.283(912lines)
P (ms)	0.049 (3 lines)	0.044 (3 lines)	0.148(8 lines)	0.047(3lines)
Q (ms)	0.507 (31 lines)	0.524 (36 lines)	0.445(24 lines)	0.689(44 lines)
R (ms)	12.57 (768 lines)	11.183 (768lines)	16.004(864 lines)	13.531(864 lines)
S (ms)	0.016 (1 line)	0.014 (1 line)	0.074(4 lines)	0.016(1 lines)
SYNC. H/V POLARITY	+ / +	+ / +	+/+	+/+
SEP . SYNC	Y	Y	Y	Y

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CLASS NO.

19 inch TFT WXGA LCD Monitor
TYPE : 190CW7CS/00
BRAND : PHILIPS

8639 000 17256

2006-06-22

NAME | SUPERS. | 22 | 590 — 11 | 10 | A4

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MODE NO.	21	22	23	24
RESOLUTION Dot clock(MHz)	1152 x 864 108	1152 x 870 100	1152 x 900 94.5	1152 x 900 108
f h	67.5kHz	68.7kHz	61.8kHz	71.8kHz
A (us)	14.815 (1600 dots)	14.56 (1456 dots)	16.169 (1528 dots)	13.926 (1054dots)
B (us)	1.185 (128 dots)	1.28 (128 dots)	1.354 (128 dots)	1.185 (128 dots)
C (us)	2.37 (256 dots)	1.44(144 dots)	2.201 (208 dots)	1.778 (192 dots)
D (us)	10.667 (1152 dots)	11.52 (1152 dots)	12.19 (1152 dots)	10.667 (1152 dots)
E (us)	0.593 (64 dots)	0.32 (32 dots)	0.424 (40 dots)	0.296 (32 dots)
f v	75Hz	75Hz	66Hz	76Hz
O (ms)	13.333 (900 lines)	13.333 (916 lines)	15.151 (937lines)	13.132 (943 lines)
P (ms)	0.044 (3 lines)	0.044 (3 lines)	0.065 (4 lines)	0.111 (8 lines)
Q (ms)	0.474 (32 lines)	0.568(39 lines)	0.501 (31 lines)	0.46 (33 lines)
R (ms)	12.8 (864 lines)	12.678 (870 lines)	14.552 (900lines)	12.533 (900 lines)
S (ms)	0.015 (1 lines)	0.043 (4 line)	0.033 (2 line)	0.028 (2 lines)
SYNC. H/V POLARITY	- / -	- / -	Serr-	+ / +
SEP . SYNC	Y	Y	Y	Y

MODE NO.	25	26	27	28
RESOLUTION Dot clock(MHz)	1280 x 960 108	1280 x 960 129.895	1280 x 1024 108	1280 x 1024 117
f h	60kHz	75kHz	64kHz	71.7kHz
A (us)	16.667(1800 dots)	13.307 (1728 dots)	15.63 (1688 dots)	13.949 (1632 dots)
B (us)	1.037(112 dots)	1.047 (136 dots)	1.037 (112 dots)	0.957 (112 dots)
C (us)	2.889(312 dots)	1.725 (224 dots)	2.296 (248 dots)	1.915 (224 dots)
D (us)	11.852(1280 dots)	9.857 (1280 dots)	11.852 (1280 dots)	10.94 (1280 dots)
E (us)	0.889(96 dots)	0.678 (88 dots)	0.445 (48 dots)	0.137 (16 dots)
f v	60Hz	75Hz	60Hz	67Hz
O (ms)	16.667(1000 lines)	13.333 (1002 lines)	16.661 (1066 lines)	14.883 (1067lines)
P (ms)	0.05(3 lines)	0.039 (3 lines)	0.047 (3 lines)	0.112 (8 lines)
Q (ms)	0.600(36 lines)	0.48 (36 lines)	0.594 (38 lines)	0.46 (33 lines)
R (ms)	16(960 lines)	12.774 (960 lines)	16.005 (1024 lines)	14.283 (1024 lines)
S (ms)	0.017(1 lines)	0.04 (3 lines)	0.015 (1 line)	0.028 (2 lines)
SYNC. H/V POLARITY	+/+	+ / +	+ / +	+ / +
SEP . SYNC	Y	Y	Y	Y

MODE NO.	29	30	31	32
RESOLUTION Dot clock(MHz)	1280 x 1024 130.223	1280 x 1024 135	1280 x 1024 138.008	1360 x 768 85.5
F h	76kHz	80kHz	81.1kHz	47.712kHz
A (us)	13.158 (1712 dots)	12.504(1688 dots)	12.326 (1664 dots)	20.959(1792 dots)
B (us)	1.024 (133 dots)	1.067(144 dots)	0.474 (64 dots)	1.31(112 dots)
C (us)	1.905 (248 dots)	1.837(248 dots)	2.133 (288 dots)	2.994(256 dots)
D (us)	9.83 (1280 dots)	9.481(1280 dots)	9.481 (1280 dots)	15.906(1360 dots)
E (us)	0.399(51 dots)	0.119(16 dots)	0.238 (32 dots)	0.749(64 dots)
F v	72Hz	75Hz	76Hz	60.015Hz
O (ms)	14 (1064 lines)	13.329(1066 lines)	13.139 (1066 lines)	16.662(795 lines)
P (ms)	0.02 (2 lines)	0.038(3 lines)	0.099 (8 lines)	0.126(6 lines)
Q (ms)	0.5 (38 lines)	0.475(38 lines)	0.394 (32 lines)	0.377(18 lines)
R (ms)	13.468 (1024 lines)	12.804(1024 lines)	12.622 (1024 lines)	16.097(768 lines)
S (ms)	0.012 (0 line)	0.012 (1 line)	0.024(2 lines)	0.063(3 lines)
SYNC. H/V POLARITY	+ / +	+/+	- / -	+ / +
SEP . SYNC	Y	Y	Y	Y

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CLASS NO.

2006-06-22

19 inch TFT WXGA LCD Monitor
TYPE : 190CW7CS/00
BRAND : PHILIPS

8639 000 17256

NAME SUPERS. 22 590 — 12 10 A4

TY CHECK DATE 2006-06-22

Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

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GENERAL PRODUCT SPECIFICATION(Continued)

MODE NO.	33	34	35	36
RESOLUTION	1440 x 900	1440 x 900	1280x720	1280x720
Dot clock(MHz)	106.50	136.75	74.5	89.04
F h	55.935kHz	70.635kHz	44.772KHz	52.5KHz
A (us)	17.878(1904 dots)	14.157(1936 dots)	22.335	19.048
B (us)	1.427(152 dots)	1.112(152 dots)	1.718	1.527
C (us)	2.718(232 dots)	1.814(248 dots)	2.577	2.336
D (us)	13.521(1440 dots)	10.53(1440 dots)	17.181	14.376
E (us)	0.751(80 dots)	0.702(96 dots)	0.859	0.809
F v	59.887Hz	74.984Hz	59.855	70
O (ms)	16.698(934 lines)	13.336(942 lines)	16.707	14.286
P (ms)	0.107(6 lines)	0.085(6 lines)	0.112	0.057
Q (ms)	0.447(25 lines)	0.467(33 lines)	0.447	0.495
R (ms)	16.09(900 lines)	12.741(900 lines)	16.082	13.714
S (ms)	0.054(3 lines)	0.042(3 lines)	0.067	0.019
SYNC. H/V POLARITY	- / +	- / +	-/+	-/+
SEP . SYNC	Y	Y	Y	Y

MODE NO.	37	38	39	40
RESOLUTION	1280x720	1280 x 768	1280 x 768	1280 x 768
Dot clock(MHz)	95.75	79.5	94.976	102.25
F h	56.456KHz	47.776kHz	56kHz	60.289kHz
A (us)	17.713	20.931	17.857	16.587
B (us)	1.337	1.61	1.432	1.252
C (us)	2.172	2.415	2.19	2.034
D (us)	13.368	16.101	13.477	12.518
E (us)	0.836	0.805	0.758	0.782
F v	74.777	59.87Hz	70Hz	74.893Hz
O (ms)	13.373	16.703	14.286	13.352
P (ms)	0.089	0.147	0.054	0.116
Q (ms)	0.478	0.419	0.5	0.448
R (ms)	12.753	16.075	13.714	12.739
S (ms)	0.053	0.063	0.018	0.05
SYNC. H/V POLARITY	-/+	- / +	-/+	-/ +
SEP . SYNC	Y	Y	Y	Y

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CLASS NO.

19 inch TFT WXGA LCD Monitor
TYPE : 190CW7CS/00
BRAND : PHILIPS

8639 000 17256

2006-06-22

NAME | SUPERS. | 22 | 590 — 13 | 10 | A4

TY | CHECK | DATE 2006-06-22

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3.4 Horizontal scanning

Sync polarity : Positive or Negative
Scanning frequency : 30 - 83 K Hz

3.5 Vertical scanning

Sync polarity : Positive or Negative
Scanning frequency : 55 - 75 Hz

3.6 Power input connection

Power cord length : 1.8 M
Power cord type : 3 leads power cord with protective earth plug.

3.7 Power management

The monitor must comply with the Microsoft On Now specification, with two power management states, as defined by the VESA DPMS document. The monitor must appropriately display the DPMS state.

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	< 36 W(typ..) ~~34 W (typ.)~~	Green LED	--
Off	Off	Off	blanked	< 1 W	Amber LED	< 3 s
DC Power Off			N/A	< 1 W	LED Off	

3.8 Display identification

In accordance with VESA Display Channel Standard Ver.1.0 and having DDC 2B capability

4 Visual characteristics
4.4 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

(1) Input signal : As defined in 3.3, 1440 x 900 non-interlaced mode (56K/60Hz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 300 nits with full screen 100 % duty cycle white signal

(3) Warm up: more than 30 minutes after power on with signal supplied.

(4) Ambient light : 400 -- 600 lux.

(5) Ambient temperature : 20 ± 5 °C

4.5 Brightness

> 300 nits (at panel color temperature, at center of the screen, set contrast and brightness at maximum.)

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4.3 Image size

Actual display size 410.4 x 256.5mm

4.4 Brightness uniformity

Set contrast at 100% and turn the brightness to get average above 300 nits at centre of the screen.
Apply the Fig 1, it should comply with the following formula:

$$\frac{B\_min}{B\_max} \times 100\% > 75\%$$

Where B_max =Maximum brightness
B_min = Minimum brightness

4.5 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.
Measure YA. Then output Pattern 3 and measure YB.
the cross talk value :

$$\frac{ABS(YA - YB)}{YA} \times 100\% < 1.5\%$$

4.6 White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB.

Apply full white pattern, with brightness in 100 % position and the contrast control at 50 % position.
The 1931 CIE Chromaticity (color triangle) diagram (x,y) coordinate for the screen center should be:

Product spec.

9300K CIE coordinates	X = 0.283 ± 0.02 Y = 0.297 ± 0.02
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.02 Y = 0.329 ± 0.02
sRGB CIE coordinates	X = 0.313 ± 0.02 Y = 0.329 ± 0.02

Production alignment spec.

9300K CIE coordinates	X = 0.283 ± 0.005 Y = 0.297 ± 0.005
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.005 Y = 0.329 ± 0.005
sRGB CIE coordinates	X = 0.313 ± 0.005 Y = 0.329 ± 0.005

Quality Inspection spec.

9300K CIE coordinates	X = 0.283 ± 0.015 Y = 0.297 ± 0.015
6500K/ sRGB CIE coordinates	X = 0.313 ± 0.015 Y = 0.329 ± 0.015

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sRGB CIE coordinates	X = 0.313 ± 0.015 Y = 0.329 ± 0.015

5 Mechanical characteristics

5.1 Cosmetic - ~~Philips~~ TPV ID

5.2 Mechanical data files - ProE files required

5.3 Location of Philips logo - Per Philips make-up sheet

Gap between panel and front bezel < 1.2 mm

Location of Control icons - Per Philips Graphic Sheet

Front side: Per Philips graphic sheet

Rear : Per Philips graphic sheet

5.4 Color for resin/paint - Per Philips make-up sheet

5.5 Resins

- RoHS required
- WEEE required.
- Resin type/selection refer to Project Book Section 7.2 Plastic material.

5.6 If paint is used

- RoHS required
- WEEE require

5.7 Plastic mold tooling

- Tooling to be designed to minimize cosmetic defects induced by molding process (sink, blush, weld lines, gate marks, ejector marks, etc.).
- Painting to cover up cosmetic defects due to molding is strongly discouraged.

5.8 Plastics flammability

- All Plastics to be Flame Retardant UL 94-V0 or Better (if monitor weighs less than 18kg; UL94-V0 is OK).
- All major plastic parts (bezel, back cover) need to be molded from same resin.

5.9 Texture/Glossing of housing

- The texture area and texture no should follow ~~Philips make-up sheet~~ TPV Spec.
- The exterior surfaces shall have a uniform texture.
- Philips must approve the mold texturing.
- Detail document for texture refer to UAN-D249.
- < = 20 gloss units

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GENERAL PRODUCT SPECIFICATION(Continued)

5.10 Tilt and swivel base

- Tilt angle : -5 ° max.(forward) and +20° min.(backward)

5.11 Label

- Regulatory label / Carton label should follow Philips requirement.
- Detail document refer to Philips Engineering Reference Book.

5.12 Product dimension / Weight

- Unit dimension (incl. pedestal) : 438.5(W) * 358 (H) * 211 (D) mm
- Packed unit dimension (WW carton) : 520W* 190 H* 392 Dmm)
- Packed unit dimension (China carton) :
- Net weight : 5.0Kg
- Gross weight : 6.7Kg
-

5.13 Transportation

Transportation standards refer to TYE-M0002

5.13.1Transportation packages

Packaging and wrapping shall be sufficient to protect the product against damage or loss during shipment from the supplier to the destination specified in the purchase order. All packaging materials are subject to test and evaluation per TYE-M0002. The cushion material shall be constructed using EPS material.

5.13.2 Transportation Test

The overall test refer to TYE-M0002.

Vibration, drop test should be performed at ambient temperature(20ºC to 23ºC) and relative humidity (40% to 65%).

A. Transportation test specification for all regions except China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Half sine shock test (non operation)

B. Transportation test specification for China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Sine vibration (operating)
  2. Half sine shock test (non operation)

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5.14 Pallet / Container loading

Transportation standards refer to TYE-M0002.	Except China Pallet	Except China Slip sheet
• Air shipment -		---
• Sea container 20'(pallet/slip sheet) -	660	---
• Sea container 40'(pallet/slip sheet) -	1386	---
~~• Sea container 40' High Cube (pallet/slip sheet) - 1008~~		~~1008~~
• Truck shipment-	tbc	

A. Air shipment
B. Container loading for other regions
C. Truck loading for other regions

6 Environmental characteristics

The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

Operating
- Temperature : 0 to 40 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage
- Temperature : -20 to 60 degree C
- Humidity : 95% max
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

Note: recommend at 5 to 35°C, Humidity less than 60 %

6.2 Transportation tests

Refer to 5.15.2

6.3 Display disturbances from external environment

According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

7 Reliability

7.1 Mean Time Between Failures

System MTBF (Including the LCD panel and CCFL) : 50,000 hrs

8 Quality assurance requirements

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GENERAL PRODUCT SPECIFICATION(Continued)

8.1 Acceptance test

According to MIL-STD-105D Control II level

AQL: 0.4 (major)
1.5 (minor)
(Please also refer to annual quality agreement)
Customer acceptance criteria: UAW0377/00

9 Philips' Flat Panel Monitors Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL		
MODEL	190CW7		
1 lit sub-pixel	~~2~~ 3		
2 adjacent lit sub-pixels	~~0~~ 1		
3 adjacent lit sub-pixels (one white pixel)	0		
Distance between two bright dot defects*	~~25mm or more~~ ≧~~15~~mm 25mm		
Bright dot defects within 20 mm circle	0		
Total bright dot defects of all type	3		

BLACK DOT DEFECTS	ACCEPTABLE LEVEL		
MODEL	190CW7		
1 dark sub-pixel	~~4~~ 5		
2 adjacent dark sub-pixels	~~2 1~~ 2		
3 adjacent dark sub-pixels (one white pixel)	0		
Distance between two black dot defects*	~~15mm or More~~ ≧15mm		
Black dot defects within 20 mm circle*	1		
Total black dot defects of all type	~~4~~ 5		

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL		
MODEL	190CW7		
Total bright or black dot defects of all type	5		

* 1 or 2 adjacent sub-pixel defects = 1 dot defect

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Fig 1: Brightness Uniformity

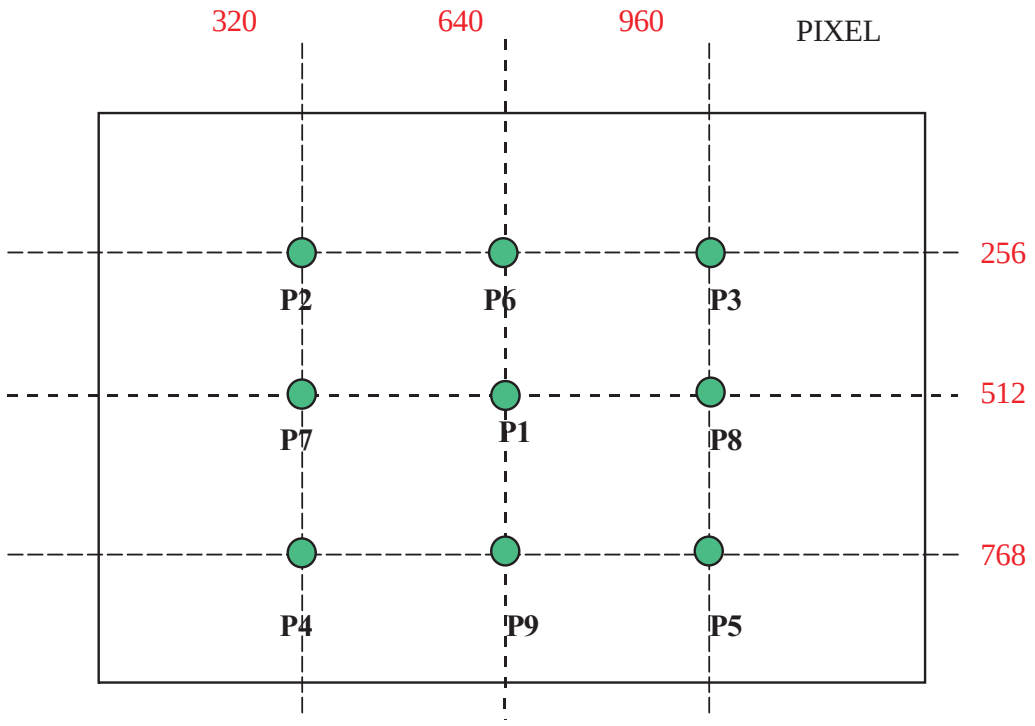
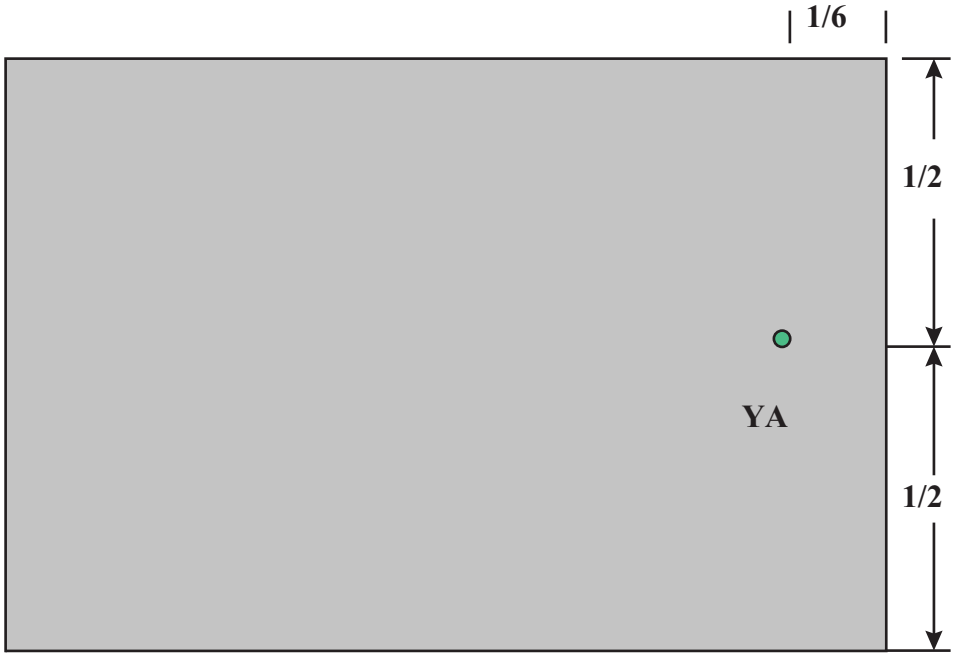


Fig 2: Cross talk pattern
Gray level 46 (64 Gray level)



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2006-06-22			
NAME	SUPERS.	22	590 — 20 / 10 / A4
TY / CHECK	DATE 2006-06-22	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.	

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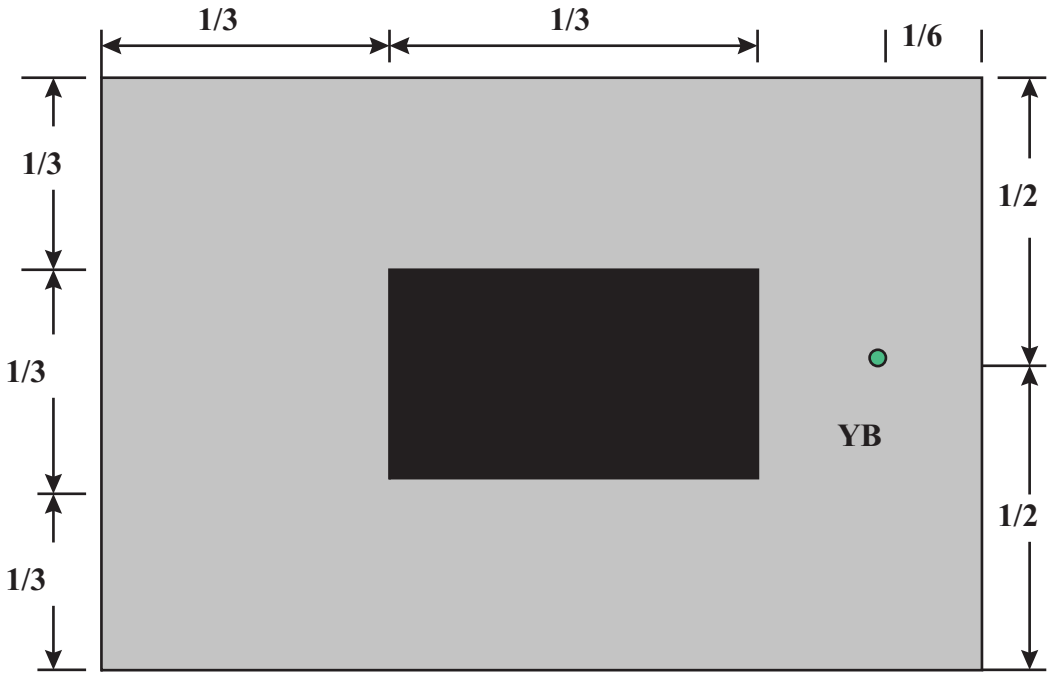
GENERAL PRODUCT SPECIFICATION(Continued)

Fig 3: Cross talk Pattern
Center at Gray level 0 (Black)



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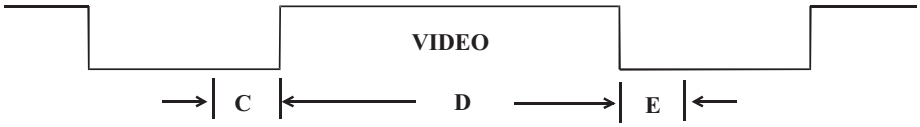
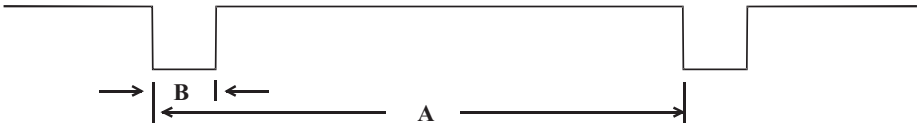
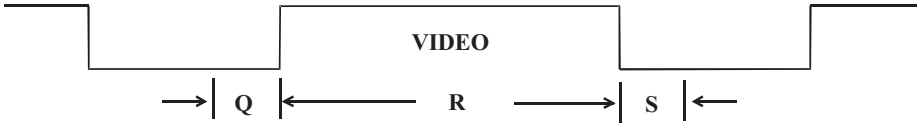
PHILIPS

SEPARATE SYNC.

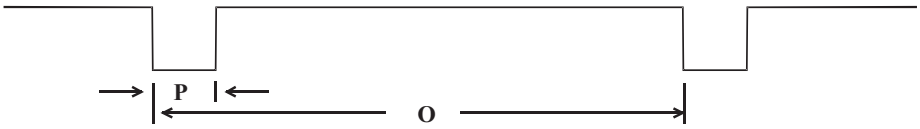


HORIZONTAL

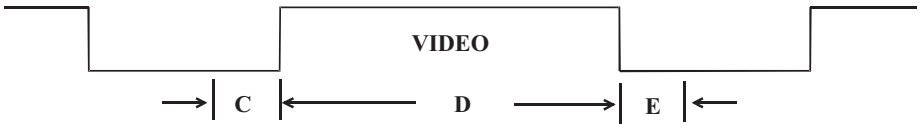




VERTICAL



COMPOSITE SYNC.



HORIZONTAL

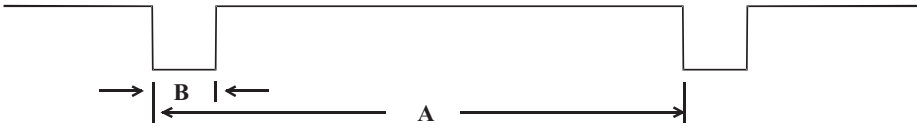


FIG-4 TIMING CHART -1

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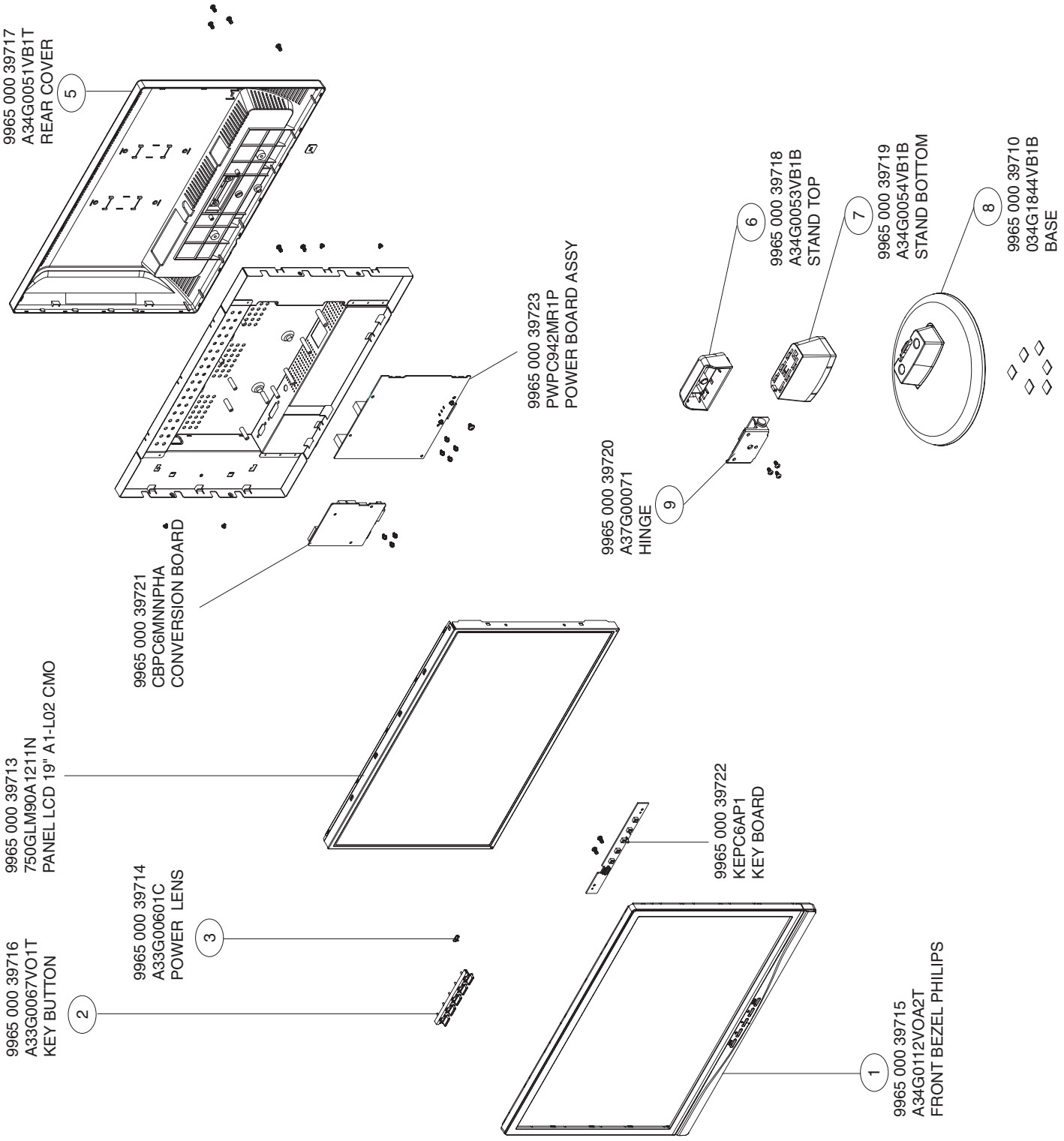
Exploded View

Type: 190CW7CS/00



0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential !

1. Servicing of SMDs (Surface Mounted Devices)

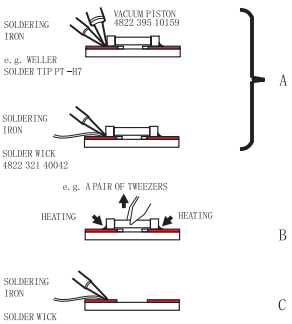
1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering. Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).

- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

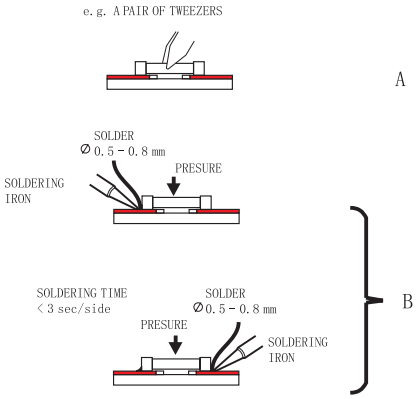
1.3 Caution on removal

- When handling the soldering.iron. use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- The chip, once removed, must never be reused.

1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig.2A).
- Next complete the soldering of the terminals of the component (see Fiq. 2B).

Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

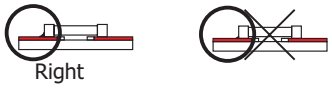
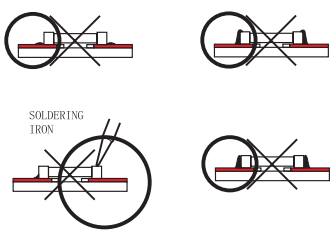


Fig.3 Examples



3. Lead-free product identification

You can identify lead-free product by Philips-lead-free logo on PCB.

4. Lead-free product repair instruction

4.1 Use only lead-free Solder Alloy 0622 149 00106(1.2mm SAC305) or 0622 14900108(1.0mm SAC305).
Remark: For lead free soldering material, please visit www.alphametals.com website for details. This is recommended by Philips.

4.2 Use only adequate solder tools applicable for lead-free soldering-tin. The solder tool must be able to reach at least a solder-temperature of 400 , to stabilize the adjusted temperature at the solder-tip and to exchange solder-tips for different applications.
Small Passives/Actives to be removed with thermal tweezers
Automated system for IC and BGA repair (Microscope, Camera, Beam split optics, Computer, Programmer, Heat controllers, Vacuum system, Laser pointer) Solder Hand-Tool (Adjustable in temperature height, Temperature shall be held constant,Flexible tips)

4.3 Adjust your solder tool so that a temperature around 360 -380 is reached and stabilized at the solder joint.
Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400 otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed.Corrosion of Tool-Spikes can be avoided when using SAC305 and a temperature of less than 400 .

4.4 Mix of lead-free solder-tin/parts with leaded soldering-tin/parts is possible but not recommended. If not to avoid clean carefully the solder-joint from old tin and re-solder with new tin.

4.5 Use only original spare-parts listed in the Service-Manuals. Standard-material(consumables) can also be purchased at external companies.

4.6 Special information for lead-free BGA-ICs: this ICs will be delivered in so-called dry-packaging to protect the IC against moisture and with lead-free logo on it. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets wet inside and during the heating time the structure of the IC will be destroyed due to high (steam-)pressure. If the packaging was opened before usage the IC has to be heated up for some hours (around 90) for drying (Take attention for ESD-protection!)

5. Rework on BGA (Ball Grid Array) ICs

General
Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

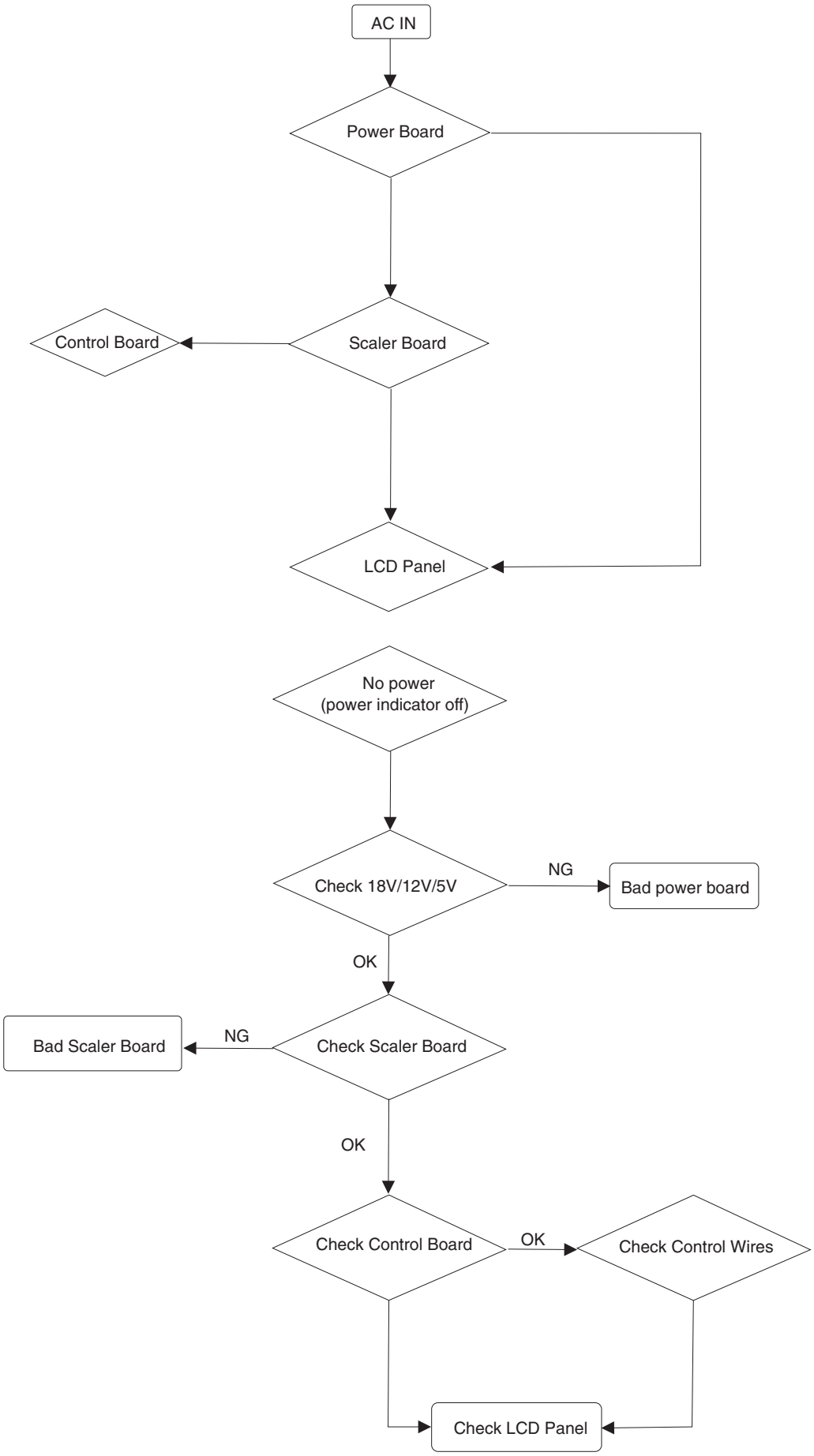
Device Removal
As is the case with any component that, it is essential when removing an (LF)BGA, the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB.
To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation
When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.
Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent. After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the(LF)BGA
Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.

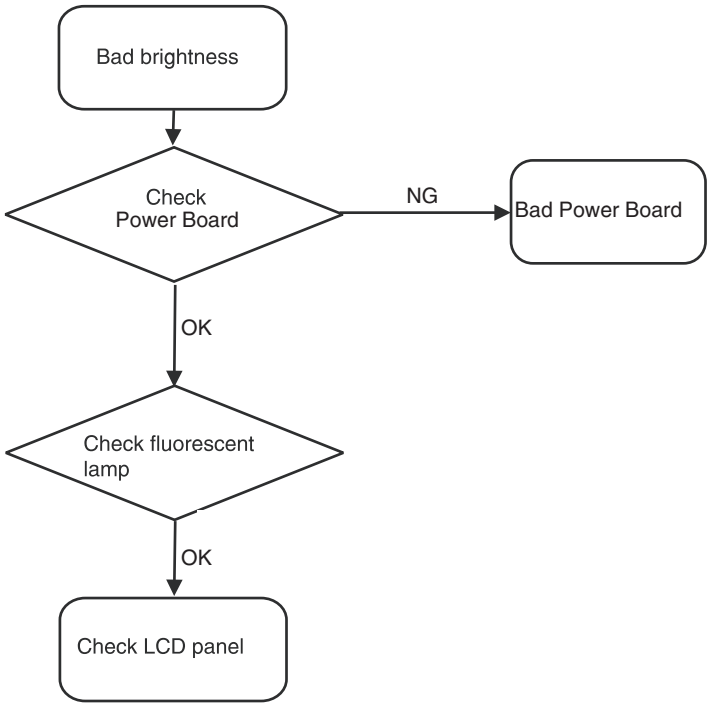
Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers.
To reflow the solder, apply a temperature profile according to the IC data sheet. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

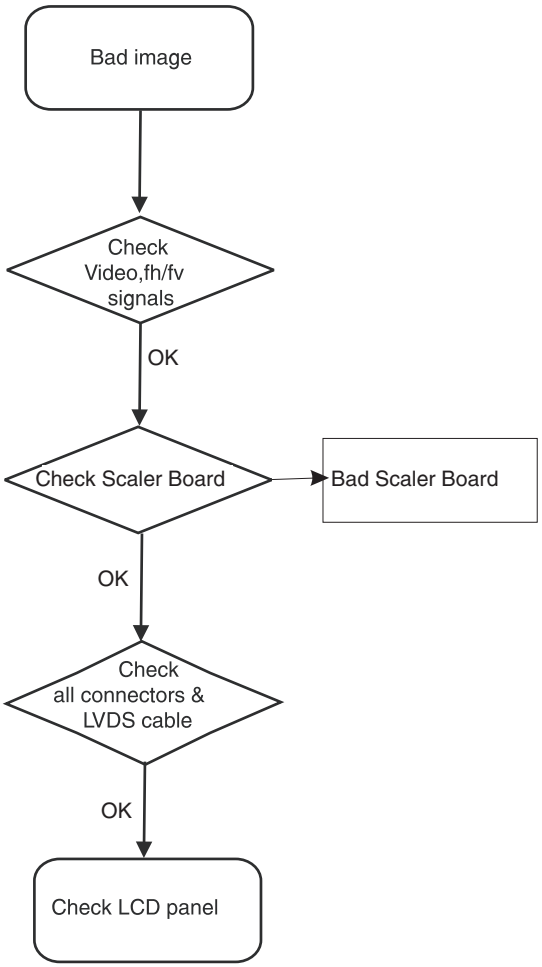
More Information
For more information on how to handle BGA devices, visit this URL: http://www.atyourservice.ce.philips.com (needs subscription). After login, select Magazine , then go to Workshop Information . Here you will find Information on how .to deal with BGA-ICs.

Repair Flow Chart

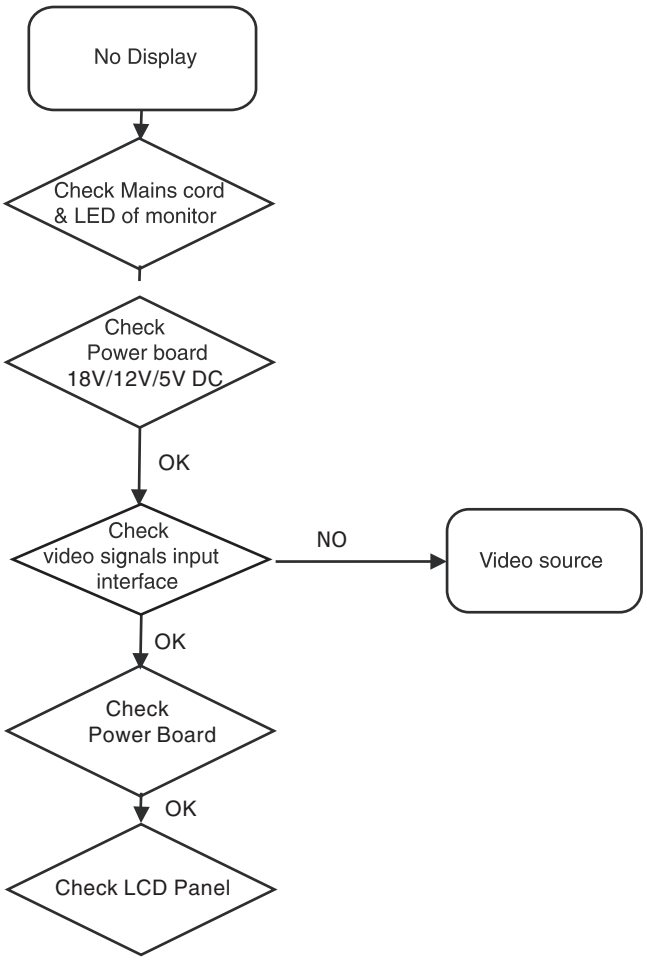


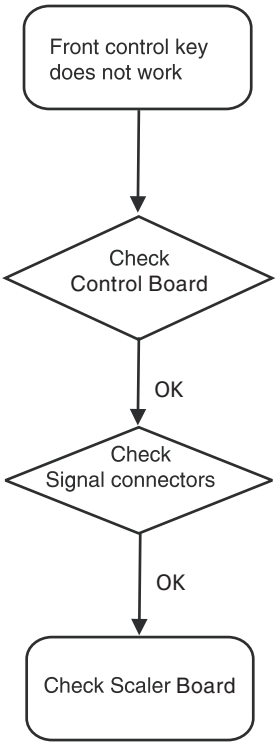
Repair Flow Chart





Repair Flow Chart





Safety Test Requirements

All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both Hipot and Ground Continuity testing.

HI-POT TEST INSTRUCTION

1.Application requirements

1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.

1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

2. Test method

2.1 Connecting conditions

2.1.1 The test specified must be applied between the parallel-blade plug of the mainscord and all accessible metal parts of the product.

2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.

2.1.3 The mains switch(es) must be in the "ON" position.

2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range(or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A,AC
Test time	3 seconds	1 second	Test time: 3 seconds(min.)
Trip current (Tester)	set at 100 uA (min.) for Max. limitation; set at 0.1 uA for Min. Limitation	5 mA	Resistance required: <=0.09+Rohm, R is the resistance of the mains cord.
Ramp time (Tester)	set at 2 seconds		

2.2.1 The minimum test duration for Quality Control Inspector must be 1 minute.

2.2.2 The test voltage must be maintained within the specified voltage + 5%.

2.2.3 There must be no breakdown during the test.

2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection

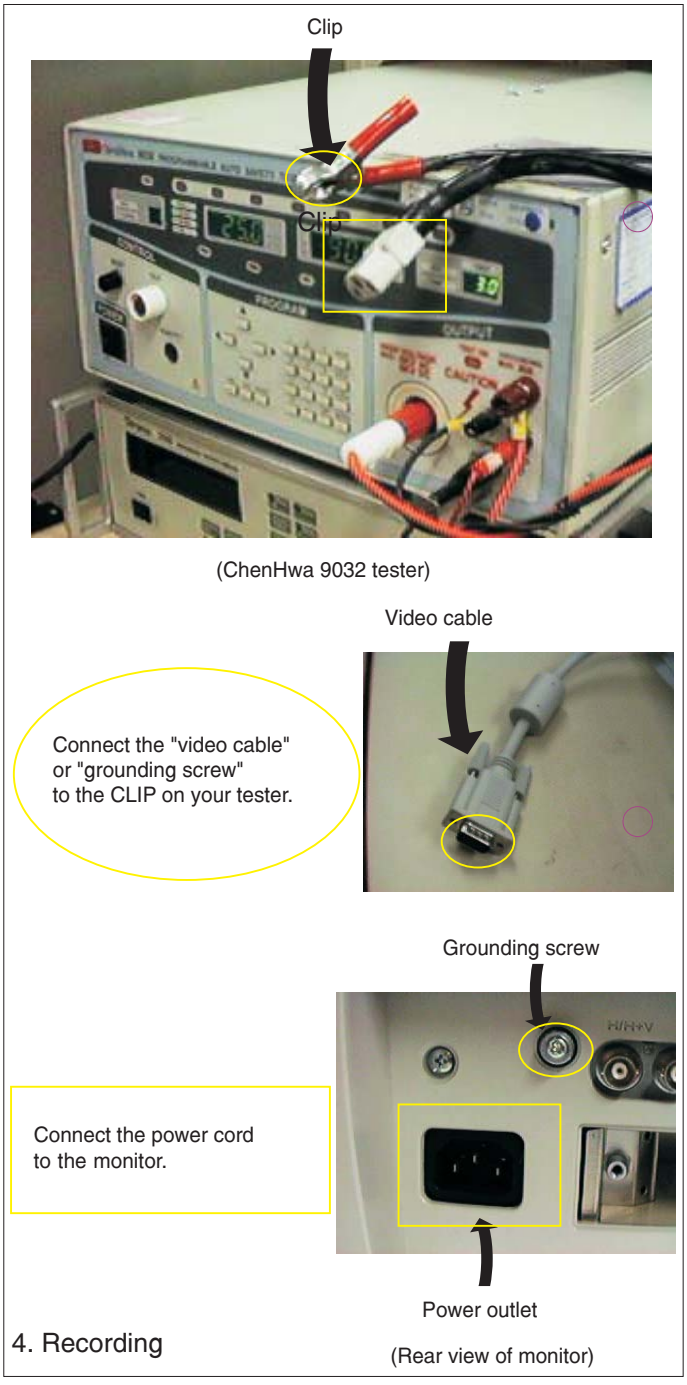
3.1. Equipments

For example :

- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

3.2. Connection

* Turn on the power switch of monitor before Hipot and Ground Continuity testing.



4. Recording

Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

Recommended Parts List

TYPE:190CW7CS/00(CMO)

Item	Philips 12NC	DESCRIPTION	TPV 18NC
	9965 000 39710	BASE	034G1844VB1B
	9965 000 39714	POWER LENS	A33G00601C
	9965 000 39715	FRONT BEZEL PHILIPS	A34G0112VOA2T
	9965 000 39716	KEY BUTTON	A33G0067VO1T
	9965 000 39717	REAR COVER	A34G0051VB1T
	9965 000 39718	STAND TOP	A34G0053VB1B
	9965 000 39719	STAND BOTTOM	A34G0054VB1B
	9965 000 39720	HINGE	A37G00071
IC801	9965 000 36059	0Z9938	056G60810
IC901	9965 000 39747	LD7575PS SOP-8	056G37961
IC902	9965 000 36055	PC123Y22FZOF	056G1393A
IC903	9965 000 36054	KIA431A-AT/P TO-92	056G15812
U401	9965 000 41346	MCU ASSY	705GP9K056005
U403	9965 000 41345	EEPROM ASSY	705GP9K056006
U404	9965 000 35965	M24C02-WMN6TP	056G113334
U405	9965 000 35965	M24C02-WMN6TP	056G113334
U701	9965 000 37095	AIC1084-33PM	056G5637
U702	9965 000 35963	AI1117D-1.8-EI	056G56331

Spare Parts List

Model: 190CW7CS/00(CMO) 12NC: 8639 000 17256

Item	Philips 12NC	DESCRIPTION	TPV 18NC
Mechanical Parts			
	9965 000 39710	BASE	034G1844VB1B
	9965 000 39714	POWER LENS	A33G00601C
	9965 000 39715	FRONT BEZEL PHILIPS	A34G0112VOA2T
	9965 000 39716	KEY BUTTON	A33G0067VO1T
	9965 000 39717	REAR COVER	A34G0051VB1T
	9965 000 39718	STAND TOP	A34G0053VB1B
	9965 000 39719	STAND BOTTOM	A34G0054VB1B
	9965 000 39720	HINGE	A37G00071
Accessory			
	9965 000 35910	POWER CORD	089G404A18NLS
miscellanea			
	9965 000 39709	RUBBER	012G62161
	9965 000 39711	SIGNAL CABLE	089G728GAA901
	9965 000 39712	FFC CABLE 30P 205MM P1.0	089G179E30C7
LCD Panel			
	9965 000 39713	PANEL LCD 19" A1-L02 CMO	750GLM90A1211N
PCB Assy			
	9965 000 39721	CONVERSION BOARD	CBPC6MNNPHA
	9965 000 39722	KEY BOARD	KEPC6AP1
	9965 000 39723	POWER BOARD ASSY	PWPC942MR1P
PCB Assy			
	9965 000 39721	CONVERSION BOARD	CBPC6MNNPHA
Various			
CN202	9965 000 39725	DVID CONN 24P FEMALE 90 DVR024	088G35424FHGP
CN405	9965 000 35960	D-SUB 15PIN	088G35315FH
CN406	9965 000 36924	FPC CONN. 1.0MM 30P	033G801930FH
C401	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C402	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C403	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C404	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C405	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C406	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C407	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C408	9965 000 36921	CHIP 0.047UF 50V X7R	065G060347332
C409	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C410	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C411	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C412	9965 000 37324	CAP:CER 0.22UF-20%-80% 10V SM	065G060322417
C413	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C414	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C416	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C417	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C418	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C419	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C420	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C421	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C422	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C423	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C424	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C425	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C426	9965 000 36922	KY16VB470M-L 10*12.5	067G215L4713N
C427	9965 000 36919	CER1 0603 NP0 50V 22P PM5 R	065G060322031
C428	9965 000 36919	CER1 0603 NP0 50V 22P PM5 R	065G060322031
C429	9965 000 36916	CHIP 10PF -0.5PF 50V NPO	065G060310031
C430	9965 000 36919	CER1 0603 NP0 50V 22P PM5 R	065G060322031
C431	9965 000 36923	KY25VB47-M-CC3.0 5*11MM	067G215V4704N
C432	9965 000 35959	LOW ESR EC 4.7 UF 50V NCC	067G215Y4797N
C436	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C437	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C438	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C439	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C440	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C441	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C442	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C443	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C444	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C445	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C446	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C447	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C448	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C449	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C450	9965 000 38992	CHIP 1UF 16V X7R 0603	065G060310512
C454	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C455	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C456	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C457	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C458	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C459	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C460	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C461	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C462	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C463	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C464	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C465	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C466	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C467	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C468	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C469	9965 000 36917	CHIP 1000PF 50V NPO	065G060310231
C470	9965 000 37517	1000PF -10% 50V X7R	065G060310232
C701	9965 000 37517	1000PF -10% 50V X7R	065G060310232
C702	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C703	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C704	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C705	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C706	9965 000 36918	CER2 0603 X7R 16V 100N PM10 R	065G060310412
C707	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
C708	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
C709	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
C710	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
C711	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
C712	9965 000 35958	KY25VB100M-L 6.3*11	067G215L1014N
R401	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R402	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R403	9965 000 35972	RST SM 0603 RC0603 100K PM5 R	061L0603104
R404	9965 000 35972	RST SM 0603 RC0603 100K PM5 R	061L0603104
R405	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R406	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R407	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R408	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R410	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R411	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R414	9965 000 35972	RST SM 0603 RC0603 100K PM5 R	061L0603104
R415	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R416	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R417	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R418	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R419	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R420	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R421	9965 000 35974	CHIPR 150 OHM -5% 1/16W	061L0603151
R422	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R423	9965 000 35974	CHIPR 150 OHM -5% 1/16W	061L0603151
R424	9965 000 35974	CHIPR 150 OHM -5% 1/16W	061L0603151
R426	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R427	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R428	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R431	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R432	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R433	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R434	9965 000 35973	RST SM 0603 RC0603 1M PM5 R	061L0603105
R435	9965 000 35977	CHIPR 2.2K OHM -5% 1/16W	061L0603222
R436	9965 000 35977	CHIPR 2.2K OHM -5% 1/16W	061L0603222
R437	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R438	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R440	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R441	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R442	9965 000 35978	CHIP 3.3K OHM 1/10W	061L0603332
R443	9965 000 35978	CHIP 3.3K OHM 1/10W	061L0603332
R444	9965 000 36068	CHIP 150OHM 1/4W	061L1206151
R445	9965 000 37788	CHIP 390 OHM 1/10W	061L0603391
R446	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R447	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472
R450	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R451	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R452	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R453	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R454	9965 000 35982	CHIPR 75 OHM -5% 1/16W	061L0603750
R455	9965 000 35982	CHIPR 75 OHM -5% 1/16W	061L0603750
R456	9965 000 35982	CHIPR 75 OHM -5% 1/16W	061L0603750
R457	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R458	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R459	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R460	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472

R461	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R462	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R463	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R464	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R465	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R466	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R467	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R468	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R469	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R470	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R471	9965 000 37788	CHIP 390 OHM 1/10W	061L0603391
R472	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R473	9965 000 36068	CHIP 150OHM 1/4W	061L1206151
R476	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R478	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472
R479	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472
R480	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472
R481	9965 000 35981	CHIPR 4.7K OHM -5% 1/16W	061L0603472
R484	9965 000 36003	RST SM 0603 RC0603 47K PM5 R	061L0603473
R486	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R487	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R488	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R489	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
R490	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R491	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R496	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R497	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R499	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
R701	9965 000 35980	CHIPR 47 OHM -5% 1/16W	061L0603470
FB401	9965 000 36934		071G59B300K
FB402	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
FB403	9965 000 36934		071G59B300K
FB404	9965 000 36934		071G59B300K
FB405	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
FB406	9965 000 36002	RST SM 0603 JUMP MAX 0R05 R	061L0603000
FB407	9965 000 37332	B201209D102TT	071G56D102
FB408	9965 000 35993	CHIP BEAD	071G56K121
FB410	9965 000 35993	CHIP BEAD	071G56K121
FB411	9965 000 35993	CHIP BEAD	071G56K121
FB412	9965 000 35993	CHIP BEAD	071G56K121
FB413	9965 000 35993	CHIP BEAD	071G56K121
FB414	9965 000 35993	CHIP BEAD	071G56K121
FB415	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB416	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB417	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB418	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB419	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB420	9965 000 36933	CHIP BEAD 120 OHM 0603FBM-11-1	071G59B121K
FB701	9965 000 35993	CHIP BEAD	071G56K121
FB702	9965 000 35993	CHIP BEAD	071G56K121
FB703	9965 000 35993	CHIP BEAD	071G56K121
FB704	9965 000 35993	CHIP BEAD	071G56K121
FB707	9965 000 35993	CHIP BEAD	071G56K121
X401	9965 000 35961	CRYSTAL 12MHZ HC-49US ARG6-120	093G2251
D404	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D405	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D406	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D407	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D408	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D409	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D410	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D411	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D412	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D413	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D414	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D415	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D416	9965 000 35995	BAV70 SOT-23	093G6442PP
D417	9965 000 35995	BAV70 SOT-23	093G6442PP
D701	9965 000 36935	FA20-04	093G20403F
D702	9965 000 36935	FA20-04	093G20403F
ZD401	9965 000 35996	UDZS5.6B	093G39S34T
ZD402	9965 000 35996	UDZS5.6B	093G39S34T
ZD403	9965 000 35996	UDZS5.6B	093G39S34T
ZD404	9965 000 35996	UDZS5.6B	093G39S34T
ZD405	9965 000 35996	UDZS5.6B	093G39S34T
ZD406	9965 000 35996	UDZS5.6B	093G39S34T
ZD407	9965 000 35996	UDZS5.6B	093G39S34T
ZD408	9965 000 35996	UDZS5.6B	093G39S34T
ZD409	9965 000 35996	UDZS5.6B	093G39S34T
ZD410	9965 000 35996	UDZS5.6B	093G39S34T
ZD411	9965 000 35996	UDZS5.6B	093G39S34T
ZD412	9965 000 35996	UDZS5.6B	093G39S34T
ZD413	9965 000 35996	UDZS5.6B	093G39S34T
ZD414	9965 000 35996	UDZS5.6B	093G39S34T
Q401	9965 000 35966	PMBS3904/PHILIPS-SMT(04)	057G4174
Q402	9965 000 12957	TR PNP PMBS3906 SOT23(PHILIPS)	057G4176
Q404	9965 000 12957	TR PNP PMBS3906 SOT23(PHILIPS)	057G4176
Q405	9965 000 35968	A03401 SOT23 BY AOS(A1)	057G7631
Q406	9965 000 35966	PMBS3904/PHILIPS-SMT(04)	057G4174
U401	9965 000 41346	MCU ASSY	705GP9K056005
U403	9965 000 41345	EEPROM ASSY	705GP9K056006
U404	9965 000 35965	M24C02-WMN6TP	056G113334
U405	9965 000 35965	M24C02-WMN6TP	056G113334
U701	9965 000 37095	AIC1084-33PM	056G5637
U702	9965 000 35963	AI1117D-1.8-EI	056G56331

PCB Assy

2490	9965 000 39722	KEY BOARD	KEPC6AP1

Various

CN101	9965 000 39726	PIN HEADER 2*6 R/A	033G802712H
SW1	9965 000 36000	TACT SWITCH TSPB-2 -NP	077G6001GCJ
SW2	9965 000 36000	TACT SWITCH TSPB-2 -NP	077G6001GCJ
SW3	9965 000 36000	TACT SWITCH TSPB-2 -NP	077G6001GCJ
SW4	9965 000 36000	TACT SWITCH TSPB-2 -NP	077G6001GCJ
SW5	9965 000 36000	TACT SWITCH TSPB-2 -NP	077G6001GCJ
C101	9965 000 36004	0.01UF -10% 50V X7R	065G060310332
C102	9965 000 36004	0.01UF -10% 50V X7R	065G060310332
C103	9965 000 36004	0.01UF -10% 50V X7R	065G060310332
C104	9965 000 36004	0.01UF -10% 50V X7R	065G060310332
C105	9965 000 36004	0.01UF -10% 50V X7R	065G060310332
R105	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R106	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R107	9965 000 35970	CHIPR 1K OHM -5% 1/16W	061L0603102
R108	9965 000 35971	CHIPR 10K OHM -5% 1/16W	061L0603103
R109	9965 000 35969	CHIPR 100 OHM -5% 1/16W	061L0603101
D101	9965 000 39727	LED GP32032C-R03-ZY-HB	081G121GGP

PCB Assy

2670	9965 000 39723	POWER BOARD ASSY	PWPC942MR1P

Various

F901	9965 000 39741	FUSE 3.15A 250V MET3.15	084G557
F901	9965 000 36046	1.5MM RIVET	006G31502
NR901	9965 000 36046	1.5MM RIVET	006G31502
PT801	9965 000 36093	X'FMR DARFONTK.2006M.101	080GL19T8DN1
PT801	9965 000 38142	TRANSFORMER ASS'Y	S80GL19T8V1
PT801	9965 000 36046	1.5MM RIVET	006G31502
PT802	9965 000 36093	X'FMR DARFONTK.2006M.101	080GL19T8DN1
PT802	9965 000 38142	TRANSFORMER ASS'Y	S80GL19T8V1
PT802	9965 000 36046	1.5MM RIVET	006G31502
Q903	9965 000 36046	1.5MM RIVET	006G31502
T901	9965 000 39739	XFMR FOR POWER LITAI	080GL17T37LGP
T901	9965 000 39740	XFMR FOR POWER LISHIN	080GL17T37LSGP
T901	9965 000 36046	1.5MM RIVET	006G31502
C801	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C804	9965 000 36073	CHIP 1UF 25V X7R 0805	065G080510522
C805	9965 000 36991	1000PF 50V NPO	065G080510231
C806	9965 000 36073	CHIP 1UF 25V X7R 0805	065G080510522
C807	9965 000 39768	10NF/50V/0805/X7R	065G080510332
C809	9965 000 39770	CHIP 0.022UF 50V X7R 0805	065G080522332
C810	9965 000 36044	CHIP 470PF 50V NPO	065G080547131
C811	9965 000 36007	ED 470UF 25V	067G215D4714K
C811	9965 000 39732	470UF 25V	067G215L4714H
C812	9965 000 39773	CHIP 1000PF 500V X7R	065G120610272
C813	9965 000 39773	CHIP 1000PF 500V X7R	065G120610272
C814	9965 000 39771	CHIP CAP 0.22 UF 25V X7R	065G080522422
C815	9965 000 36007	ED 470UF 25V	067G215D4714K
C815	9965 000 39732	470UF 25V	067G215L4714H
C816	9965 000 39729	22PF 5% SL 3KV TDK	065G3J2206ET
C818	9965 000 39772	3200PF/25V/X7R	065G080533232
C819	9965 000 36045	CHIP 0.047UF 50V X7R	065G080547332
C820	9965 000 36044	CHIP 470PF 50V NPO	065G080547131
C822	9965 000 39773	CHIP 1000PF 500V X7R	065G120610272
C823	9965 000 39773	CHIP 1000PF 500V X7R	065G120610272
C824	9965 000 36941	5PF 5% SL 3KV	065G3J5096ET
C825	9965 000 36941	5PF 5% SL 3KV	065G3J5096ET
C826	9965 000 36941	5PF 5% SL 3KV	065G3J5096ET
C827	9965 000 39772	3200PF/25V/X7R	065G080533232
C828	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C829	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C831	9965 000 36044	CHIP 470PF 50V NPO	065G080547131
C834	9965 000 39729	22PF 5% SL 3KV TDK	065G3J2206ET
C835	9965 000 36941	5PF 5% SL 3KV	065G3J5096ET

Spare Parts List

C837	9965 000 39729	22PF 5% SL 3KV TDK	065G3J2206ET
C838	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C839	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C840	9965 000 36073	CHIP 1UF 25V X7R 0805	065G080510522
C841	9965 000 39729	22PF 5% SL 3KV TDK	065G3J2206ET
C842	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C843	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C844	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C845	9965 000 36991	1000PF 50V NPO	065G080510231
C846	9965 000 36991	1000PF 50V NPO	065G080510231
C847	9965 000 36991	1000PF 50V NPO	065G080510231
C848	9965 000 36991	1000PF 50V NPO	065G080510231
C900	9965 000 39731	2200PF -20% 250VAC	065G306M2222BM
C901	9965 000 39730	Y1.CAP.001UF 250VAC MURATA	065G306M1022BM
C902	9965 000 39730	Y1.CAP.001UF 250VAC MURATA	065G306M1022BM
C903	9965 000 37794	FILM CAPACITOR	063G10747410S
C904	9965 000 36007	ED 470UF 25V	067G215D4714K
C904	9965 000 39732	470UF 25V	067G215L4714H
C905	9965 000 36051	100UF 450V 18*36 105 BY HERMEI	067G215S10115H
C905	9965 000 36086	100UF 450V	067G215S10115K
C905	9965 000 36046	1.5MM RIVET	006G31502
C906	9965 000 39781	KY50VB10M-TP5 5*11.5	067G2151007NT
C907	9965 000 39781	KY50VB10M-TP5 5*11.5	067G2151007NT
C908	9965 000 39774	CHIP 0.1UF 25V X7R 1206	065G120610432
C909	9965 000 39769	220PF 50V NPO	065G080522131
C910	9965 000 36044	CHIP 470PF 50V NPO	065G080547131
C911	9965 000 36007	ED 470UF 25V	067G215D4714K
C911	9965 000 39732	470UF 25V	067G215L4714H
C912	9965 000 36007	ED 470UF 25V	067G215D4714K
C912	9965 000 39732	470UF 25V	067G215L4714H
C916	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C917	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C918	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C919	9965 000 36041	CHIP 0.1U 50V X7R	065G080510432
C930	9965 000 39780	CERAMIC CAP	065G2K1521TGP
C931	9965 000 39780	CERAMIC CAP	065G2K1521TGP
C932	9965 000 39780	CERAMIC CAP	065G2K1521TGP
C933	9965 000 39780	CERAMIC CAP	065G2K1521TGP
C934	9965 000 39780	CERAMIC CAP	065G2K1521TGP
C935	9965 000 36007	ED 470UF 25V	067G215D4714K
C935	9965 000 39732	470UF 25V	067G215L4714H
C936	9965 000 36007	ED 470UF 25V	067G215D4714K
C936	9965 000 39732	470UF 25V	067G215L4714H
C937	9965 000 36007	ED 470UF 25V	067G215D4714K
C937	9965 000 39732	470UF 25V	067G215L4714H
C808	9965 000 39752	180K OHM 1/8W	061L0805184
F902	9965 000 39751	0 OHM 1/8W	061G1206000
F903	9965 000 39751	0 OHM 1/8W	061G1206000
JR801	9965 000 35984	CHIPR 0OHM -5% 1/10W	061L0805000
JR803	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
JR804	9965 000 35984	CHIPR 0OHM -5% 1/10W	061L0805000
JR805	9965 000 35984	CHIPR 0OHM -5% 1/10W	061L0805000
JR806	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
JR807	9965 000 35984	CHIPR 0OHM -5% 1/10W	061L0805000
JR808	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
JR809	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
JR901	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
JR902	9965 000 36067	CHIPR 0 OHM -5% 1/8W	061L1206000
NR901	9965 000 39728	8 OHM NCT	061G58080WT
R801	9965 000 39749	100K 0805	061G0805104
R802	9965 000 36063	300K OM 1/8W	061L0805304
R803	9965 000 36964	CHIPR 10K OHM -5% 1/10W	061L0805103
R804	9965 000 36964	CHIPR 10K OHM -5% 1/10W	061L0805103
R805	9965 000 36070	CHIPR 470 OHM -5% 1/8W	061L1206471
R806	9965 000 36964	CHIPR 10K OHM -5% 1/10W	061L0805103
R807	9965 000 39764	CHIP 22OHM 5% 8W	061L1206220
R808	9965 000 39756	CHIPR 47K OHM -5% 1/8W	061L0805473
R810	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R812	9965 000 36964	CHIPR 10K OHM -5% 1/10W	061L0805103
R813	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R814	9965 000 39760	CHIPR 750K OHM -5% 1/8W	061L0805754
R815	9965 000 36965	CHIPR 100K OHM -5% 1/10W	061L0805104
R816	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R817	9965 000 39754	SMD 39KOHM/0805/ -5% 1/8W	061L0805393
R818	9965 000 39763	CHIP 15 OHM 5% 1206 1/4W	061L1206150
R819	9965 000 39763	CHIP 15 OHM 5% 1206 1/4W	061L1206150
R822	9965 000 36083	MGFR 6.2MOHM -5% 1/2W	061G212Y625KT
R823	9965 000 39761	CHIP 82KOHM 1/8W	061L0805823
R824	9965 000 39759	750 OHM	061L0805751
R825	9965 000 39758	CHIP 51KOHM 1/8W	061L0805513
R826	9965 000 39757	CHIP 510 OHM 1% 1/8W	061L08055100F
R827	9965 000 36981	CHIP 7.5K OHM 1/10W	061L0805752
R828	9965 000 39763	CHIP 15 OHM 5% 1206 1/4W	061L1206150
R829	9965 000 39763	CHIP 15 OHM 5% 1206 1/4W	061L1206150
R830	9965 000 39761	CHIP 82KOHM 1/8W	061L0805823
R831	9965 000 36981	CHIP 7.5K OHM 1/10W	061L0805752
R832	9965 000 36083	MGFR 6.2MOHM -5% 1/2W	061G212Y625KT
R836	9965 000 36963	CHIPR 1K OHM -5% 1/10W	061L0805102
R837	9965 000 39767	CHIPR 5.1OHM -5% 1/4W	061L1206519
R841	9965 000 39750	RST CHIPR 560 OHM -1% 1/8W	061G08055600F
R842	9965 000 39767	CHIPR 5.1OHM -5% 1/4W	061L1206519
R843	9965 000 36963	CHIPR 1K OHM -5% 1/10W	061L0805102
R846	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R847	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R848	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R849	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R850	9965 000 39755	CHIRP 4.7K OHM -5% 1/10W	061L0805472
R851	9965 000 36986	CHIP 4.7KOHM 5% 1/4W	061L1206472
R852	9965 000 39755	CHIRP 4.7K OHM -5% 1/10W	061L0805472
R853	9965 000 39755	CHIRP 4.7K OHM -5% 1/10W	061L0805472
R858	9965 000 39759	750 OHM	061L0805751
R860	9965 000 36013	CHIP 1M OHM 5% 1/8W	061L0805105
R901	9965 000 36024	CHIPR 680K OHM -5% 1/8W	061L1206684
R902	9965 000 36024	CHIPR 680K OHM -5% 1/8W	061L1206684
R903	9965 000 36024	CHIPR 680K OHM -5% 1/8W	061L1206684
R904	9965 000 39766	RST CHIPR 3.9KOHM -5% 1/4W	061L1206392
R905	9965 000 36010	100K OHM 5% 2W	061G152M10458F
R906	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R909	9965 000 39765	CHIP 3.3OHM 1/4W	061L1206339
R910	9965 000 39764	CHIP 22OHM 5% 8W	061L1206220
R911	9965 000 39762	CHIP 1K OHM 5% 1/8W	061L1206102
R912	9965 000 36964	CHIPR 10K OHM -5% 1/10W	061L0805103
R913	9965 000 36965	CHIPR 100K OHM -5% 1/10W	061L0805104
R914	9965 000 39744	RST MOFR 0.47OHM -5% 2WS	061G152M47858F
R916	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R919	9965 000 36070	CHIPR 470 OHM -5% 1/8W	061L1206471
R920	9965 000 36963	CHIPR 1K OHM -5% 1/10W	061L0805102
R921	9965 000 36963	CHIPR 1K OHM -5% 1/10W	061L0805102
R922	9965 000 36963	CHIPR 1K OHM -5% 1/10W	061L0805102
R923	9965 000 36975	CHIP 33KOHM 1/8W 1%	061L08053302F
R924	9965 000 36142	CHIPR 2.4KOHM -1% 1/8W	061L08052401F
R925	9965 000 39753	CHIP 3.6KOHM 1/8W 1%	061L08053601F
R926	9965 000 36971	CHIP 2KOHM 1/8W	061L0805202
R927	9965 000 36016	CHIP 10KOHM 5% 1/4W	061L1206103
R931	9965 000 39766	RST CHIPR 3.9KOHM -5% 1/4W	061L1206392
R934	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R935	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R936	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R937	9965 000 36022	CHIP 100 OHM 5% 1/8W	061L1206101
R938	9965 000 39766	RST CHIPR 3.9KOHM -5% 1/4W	061L1206392
FB901	9965 000 39733	FERRITE BEAD	071G5529GP
L901	9965 000 39737	CHOKE	073L17453LGGP
L901	9965 000 39738	CHOKE BY LISHIN	073L17453LSGGP
L901	9965 000 36046	1.5MM RIVET	006G31502
L902	9965 000 36088	LINE FILTER	073G17465H
L902	9965 000 36025	LINE FILTER BY LISHIN	073G17465LS
L902	9965 000 39227	TRANSFORMERS	S73G17465VW
L902	9965 000 36046	1.5MM RIVET	006G31502
L903	9965 000 39734	CHOKE	073G25391T
L903	9965 000 39736	CHOKE BY LI SHIN	073G25391LSGP
L904	9965 000 39734	CHOKE	073G25391T
L904	9965 000 39735	CHOKE BY LI SHIN	073G25391LS
BD901	9965 000 39742	BRIDGE DIODE KBP208G LITEON	093G5046028
D801	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D802	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D803	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D804	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D805	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D806	9965 000 35994	DIO SIG SM BAV99 (PHSE)R	093G6433
D809	9965 000 39779	IN4148W	093G64S511SEM
D810	9965 000 39779	IN4148W	093G64S511SEM
D811	9965 000 39779	IN4148W	093G64S511SEM
D812	9965 000 39779	IN4148W	093G64S511SEM
D813	9965 000 39779	IN4148W	093G64S511SEM
D901	9965 000 36030	RECTIFIER DIODE FR107	093G6026T52T
D902	9965 000 36095	FR103	093G6038T52T
D903	9965 000 39775	LL4148-GS08	093G6432V
D904	9965 000 39775	LL4148-GS08	093G6432V
D908	9965 000 39745	SP20150	093G60252
D908	9965 000 39746	DIODE SP20150R ITO-220 SECOS	093G60281
D909	9965 000 39745	SP20150	093G60252
D909	9965 000 39746	DIODE SP20150R ITO-220 SECOS	093G60281
ZD801	9965 000 36079	RLZ 5.6B LLDS	093G39S24T
ZD901	9965 000 39777	RLZ 13B LLDS	093G39S40T
ZD902	9965 000 36079	RLZ 5.6B LLDS	093G39S24T
ZD903	9965 000 36080	PTZ 9.1B	093G39S38T
ZD904	9965 000 39778	RLZ18B LLDS	093G39S44T

ZD905	9965 000 39776	RLZ20B LLDS	093G39S12T
IC801	9965 000 36059	0Z9938	056G60810
IC901	9965 000 39747	LD7575PS SOP-8	056G37961
IC902	9965 000 36055	PC123Y22FZOF	056G1393A
IC903	9965 000 36054	KIA431A-AT/P TO-92	056G15812
Q801	9965 000 35966	PMBS3904/PHILIPS-SMT(04)	057G4174
Q802	9965 000 35966	PMBS3904/PHILIPS-SMT(04)	057G4174
Q803	9965 000 35966	PMBS3904/PHILIPS-SMT(04)	057G4174
Q804	9965 000 36033	RK7002	057G7592
Q805	9965 000 39748	AO4828L	057G7636
Q805	9965 000 36100	AM9945N	057G76314
Q806	9965 000 39748	AO4828L	057G7636
Q806	9965 000 36100	AM9945N	057G76314
Q807	9965 000 36033	RK7002	057G7592
Q808	9965 000 36033	RK7002	057G7592
Q809	9965 000 36033	RK7002	057G7592
Q810	9965 000 36033	RK7002	057G7592
Q903	9965 000 39743	STP10NK70ZFP	057G66721

Different Parts List

Diversity of 190CW7CS/27(CMO) compared with 190CW7CS/00(CMO)

Item	Philips 12NC	DESCRIPTION	TPV 18NC
	8639 000 17262	190CW7CS/27	
	9965 000 41575	MAINSCORD	089G402A18NLS2
	9965 000 41537	MAIN FRAME ASSY CMO	705GZ-000036
	9965 000 41572	REAR COVER ASSY	705GZ-000037
	9965 000 41573	FRONT BEZEL ASSY HP CMO	705GZ-000038
	9965 000 41538	MAIN FRAME CMO	A15G00322

Diversity of 190CW7CS/69(CMO) compared with 190CW7CS/00(CMO)

Item	Philips 12NC	DESCRIPTION	TPV 18NC
	8639 000 17257	190CW7CS/69	
	9965 000 41057	POWER CORD 1.8M PY8B1V6CC0A-060	089G410A18NLSB
	9965 000 41537	MAIN FRAME ASSY CMO	705GZ-000036
	9965 000 41572	REAR COVER ASSY	705GZ-000037
	9965 000 41573	FRONT BEZEL ASSY HP CMO	705GZ-000038
	9965 000 41538	MAIN FRAME CMO	A15G00322

Diversity of 190CW7CS/93(CMO) compared with 190CW7CS/00(CMO)

Item	Philips 12NC	DESCRIPTION	TPV 18NC
	8639 000 17259	190CW7CS/93	
	9965 000 41562	MAINSCORD CCEE 10A 1M8 DET BK	089G414A18NLSC
	9965 000 41537	MAIN FRAME ASSY CMO	705GZ-000036
	9965 000 41572	REAR COVER ASSY	705GZ-000037
	9965 000 41573	FRONT BEZEL ASSY HP CMO	705GZ-000038
	9965 000 41712	EPS(L)	Q44G90441
	9965 000 41713	EPS(R)	Q44G90442
	9965 000 41714	CARTON (/93)	Z44G90018131A
	9965 000 41538	MAIN FRAME CMO	A15G00322

Diversity of 190WV7CS/00(CMO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description	Philips 12NC
10	034G1844VB1B	BASE	9965 000 39710
20	089G728GAA901	SIGNAL CABLE	9965 000 39711
30	089G179E30C7	FFC CABLE 30P 205MM P1.0	9965 000 39712
40	705GZV15002	MAIN FRAME ASSY CMO	9965 000 43701
60	705GZV34001	REAR COVER ASSY	9965 000 43702
90	705GZV34002	FRONT BEZEL ASSY	9965 000 43703
130	750GLM90A1211N	PANEL LCD 19" A1-L02 CMO	9965 000 39713
140	A34G0053VB1B	STAND TOP	9965 000 39718
150	A34G0054VB1B	STAND BOTTOM	9965 000 39719
160	A37G00071	HINGE	9965 000 39720
240	089G420A18NIS1	MAINS CORD TWN 7A 1M8 BK	9965 000 43167
260	CBPC6MNNPZSA1	SCALER?ASSEMBLY	9965 000 43704
2150	KEPC6AP1	KEY BOARD	9965 000 39722
2320	PWPC942MR1P	POWER BOARD ASSY	9965 000 39723
50	Z15G00021	MAIN FRAME CMO	9965 000 43705
100	A33G00601C	POWER LENS	9965 000 39714
110	A33G0067VO1T	KEY BUTTON	9965 000 39716
120	A34G0112VOA2T	FRONT BEZEL PHILIPS	9965 000 39715
280	033G801930FH	FPC CONN. 1.0MM 30P	9965 000 36924
290	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
300	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
310	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
320	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
330	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
340	067G3151014K	EC 100UF 25V EG1E101MNN0511PU 6.	9965 000 43645
350	067G3154704K	EC 47UF 25V EG1E470MNN0511PU 5*1	9965 000 43647
360	067G3154797K	5*11MM	9965 000 43648
370	067G215L1014N	KY25VB100M-L 6.3*11	9965 000 35958
380	067G215L1014N	KY25VB100M-L 6.3*11	9965 000 35958
390	067G215L1014N	KY25VB100M-L 6.3*11	9965 000 35958
400	067G215L1014N	KY25VB100M-L 6.3*11	9965 000 35958
410	067G215L1014N	KY25VB100M-L 6.3*11	9965 000 35958
420	067G215L4713N	KY16VB470M-L 10*12.5	9965 000 36922
430	067G215S4713K	EC 470UF 16V	9965 000 43646
440	067G215V4704N	KY25VB47-M-CC3.0 5*11MM	9965 000 36923
450	067G215Y4797N	LOW ESR EC 4.7 UF 50V NCC	9965 000 35959
460	088G35315FH	D-SUB 15PIN	9965 000 35960
470	093G2251	CRYSTAL 12MHZ HC-49US ARG6-120	9965 000 35961
480	056G5637	AIC1084-33PM	9965 000 37095
490	056G56321	AP1084K33LA	9965 000 37330
500	056G56331	AI1117D-1.8-EI	9965 000 35963
510	056G113324	AT24C16AN-10SU-2.7	9965 000 35964
520	056G113333	M24C16-MN6TP	9965 000 39724
530	056G113334	M24C02-WMN6TP	9965 000 35965
540	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
550	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
560	057G4176	TR PNP PMBS3906 SOT23(PHILIPS)	9965 000 12957
570	057G4176	TR PNP PMBS3906 SOT23(PHILIPS)	9965 000 12957
580	057G7631	A03401 SOT23 BY AOS(A1)	9965 000 35968
690	061L0603101	CHIPR 100 OHM -5% 1/16W	9965 000 35969
800	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
810	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
820	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
890	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
900	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
910	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
920	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
930	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
1000	061L0603104	RST SM 0603 RC0603 100K PM5 R	9965 000 35972
1010	061L0603104	RST SM 0603 RC0603 100K PM5 R	9965 000 35972
1020	061L0603104	RST SM 0603 RC0603 100K PM5 R	9965 000 35972
1030	061L0603105	RST SM 0603 RC0603 1M PM5 R	9965 000 35973
1040	061L0603151	CHIPR 150 OHM -5% 1/16W	9965 000 35974
1050	061L0603151	CHIPR 150 OHM -5% 1/16W	9965 000 35974
1060	061L0603151	CHIPR 150 OHM -5% 1/16W	9965 000 35974
1070	061L0603222	CHIPR 2.2K OHM -5% 1/16W	9965 000 35977
1080	061L0603222	CHIPR 2.2K OHM -5% 1/16W	9965 000 35977
1090	061L0603332	CHIP 3.3K OHM 1/10W	9965 000 35978
1100	061L0603332	CHIP 3.3K OHM 1/10W	9965 000 35978
1110	061L0603391	CHIP 390 OHM 1/10W	9965 000 37788
1120	061L0603470	CHIPR 47 OHM -5% 1/16W	9965 000 35980
1130	061L0603472	CHIPR 4.7K OHM -5% 1/16W	9965 000 35981
1140	061L0603472	CHIPR 4.7K OHM -5% 1/16W	9965 000 35981
1150	061L0603472	CHIPR 4.7K OHM -5% 1/16W	9965 000 35981
1160	061L0603472	CHIPR 4.7K OHM -5% 1/16W	9965 000 35981
1170	061L0603473	RST SM 0603 RC0603 47K PM5 R	9965 000 36003
1180	061L0603750	CHIPR 75 OHM -5% 1/16W	9965 000 35982
1190	061L0603750	CHIPR 75 OHM -5% 1/16W	9965 000 35982
1200	061L0603750	CHIPR 75 OHM -5% 1/16W	9965 000 35982
1210	061L1206151	CHIP 150OHM 1/4W	9965 000 36068
1220	061L1206151	CHIP 150OHM 1/4W	9965 000 36068
1230	065G060310031	CHIP 10PF -0.5PF 50V NPO	9965 000 36916
1240	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1250	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1260	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1270	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1280	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1290	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1300	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1310	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1320	065G060310231	CHIP 1000PF 50V NPO	9965 000 36917
1330	065G060310232	1000PF -10% 50V X7R	9965 000 37517
1340	065G060310232	1000PF -10% 50V X7R	9965 000 37517
1350	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1360	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1370	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1380	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1390	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1400	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1410	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1420	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1430	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1440	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1450	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1460	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1470	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1480	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1490	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1500	065G060310412	CER2 0603 X7R 16V 100N PM10 R	9965 000 36918
1600	065G060310512	CHIP 1UF 16V X7R 0603	9965 000 38992
1610	065G060322031	CER1 0603 NP0 50V 22P PM5 R	9965 000 36919
1620	065G060322031	CER1 0603 NP0 50V 22P PM5 R	9965 000 36919
1630	065G060322031	CER1 0603 NP0 50V 22P PM5 R	9965 000 36919
1640	065G060322417	CAP:CER 0.22UF-20%-80% 10V SM	9965 000 37324
1650	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1660	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1670	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1680	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1690	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1700	065G060347332	CHIP 0.047UF 50V X7R	9965 000 36921
1710	071G56D102	B201209D102TT	9965 000 37332
1720	071G56D102M	CHIP HEAD 1000OHM	9965 000 43649
1730	071G56K121	CHIP BEAD	9965 000 35993
1740	071G56K121	CHIP BEAD	9965 000 35993
1750	071G56K121	CHIP BEAD	9965 000 35993
1760	071G56K121	CHIP BEAD	9965 000 35993
1770	071G56K121	CHIP BEAD	9965 000 35993
1780	071G56K121	CHIP BEAD	9965 000 35993
1790	071G56K121	CHIP BEAD	9965 000 35993
1800	071G56K121	CHIP BEAD	9965 000 35993
1810	071G56K121M	CHIP BEAD	9965 000 36567
1820	071G56K121M	CHIP BEAD	9965 000 36567
1830	071G56K121M	CHIP BEAD	9965 000 36567
1840	071G56K121M	CHIP BEAD	9965 000 36567
1850	071G56K121M	CHIP BEAD	9965 000 36567
1860	071G56K121M	CHIP BEAD	9965 000 36567
1870	071G56K121M	CHIP BEAD	9965 000 36567
1880	071G56K121M	CHIP BEAD	9965 000 36567
1890	071G59B300K		9965 000 36934
1900	071G59B300K		9965 000 36934
1910	071G59B300K		9965 000 36934
1920	071G59B300M	CHIP BEAD 30 OHM	9965 000 43707
1930	071G59B300M	CHIP BEAD 30 OHM	9965 000 43707
1940	071G59B300M	CHIP BEAD 30 OHM	9965 000 43707

1950	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
1960	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
1970	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
1980	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
1990	093G6442PP	BAV70 SOT-23	9965 000 35995
2000	093G39S34T	UDZS5.6B	9965 000 35996
2010	093G39S34T	UDZS5.6B	9965 000 35996
2020	093G39S34T	UDZS5.6B	9965 000 35996
2030	093G39S34T	UDZS5.6B	9965 000 35996
2040	093G39S34T	UDZS5.6B	9965 000 35996
2050	093G39S34T	UDZS5.6B	9965 000 35996
2060	093G39S34T	UDZS5.6B	9965 000 35996
2070	093G39S34T	UDZS5.6B	9965 000 35996
2080	093G39S34T	UDZS5.6B	9965 000 35996
2090	093G20403F	FA20-04	9965 000 36935
2100	093G20403F	FA20-04	9965 000 36935
2110	705GZV56017	CPU ASSEMBLY	9965 000 43708
2120	056G562117	IC NT68663MEFG-128 QFP-128L NOVA	9965 000 37779
2840	081G121GGP	LED GP32032C-R03-ZY-HB	9965 000 39727
2850	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2860	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2870	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2880	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2890	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2900	061L0603101	CHIPR 100 OHM -5% 1/16W	9965 000 35969
2910	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2920	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2930	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2940	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2950	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2960	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2970	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2980	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2990	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
3010	063G10747410S	FILM CAPACITOR	9965 000 37794
3020	067G215D4714K	ED 470UF 25V	9965 000 36007
3030	067G215D4714K	ED 470UF 25V	9965 000 36007
3040	067G215D4714K	ED 470UF 25V	9965 000 36007
3050	067G215D4714K	ED 470UF 25V	9965 000 36007
3060	067G215D4714K	ED 470UF 25V	9965 000 36007
3070	067G215D4714K	ED 470UF 25V	9965 000 36007
3080	067G215D4714K	ED 470UF 25V	9965 000 36007
3090	067G215D4714K	ED 470UF 25V	9965 000 36007
3100	067G215L4714H	470UF 25V	9965 000 39732
3110	067G215L4714H	470UF 25V	9965 000 39732
3120	067G215L4714H	470UF 25V	9965 000 39732
3130	067G215L4714H	470UF 25V	9965 000 39732
3140	067G215L4714H	470UF 25V	9965 000 39732
3150	067G215L4714H	470UF 25V	9965 000 39732
3160	067G215L4714H	470UF 25V	9965 000 39732
3170	067G215L4714H	470UF 25V	9965 000 39732
3180	067G215S10115H	100UF 450V 18*36 105 BY HERMEI	9965 000 36051
3190	067G215S10115K	100UF 450V	9965 000 36086
3200	084G557	FUSE 3.15A 250V MET3.15	9965 000 39741
3210	093G5046028	BRIDGE DIODE KBP208G LITEON	9965 000 39742
3220	056G1393A	PC123Y22FZOF	9965 000 36055
3230	061G58080WT	8 OHM NCT	9965 000 39728
3240	065G3J2206EM	22PF 3KV	9965 000 43644
3250	065G3J2206EM	22PF 3KV	9965 000 43644
3260	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3270	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3280	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3290	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3300	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3310	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3320	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3330	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3340	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3350	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3360	065G306M2222BM	2200PF -20% 250VAC	9965 000 39731
3370	073G17465H	LINE FILTER	9965 000 36088
3380	073G17465LS	LINE FILTER BY LISHIN	9965 000 36025
3390	073G25391T	CHOKE	9965 000 39734
3400	073G25391T	CHOKE	9965 000 39734
3410	073G25391LS	CHOKE BY LI SHIN	9965 000 39735
3420	073G25391LSGP	CHOKE BY LI SHIN	9965 000 39736
3430	073L17453LGGP	CHOKE	9965 000 39737
3440	073L17453LSGGP	CHOKE BY LISHIN	9965 000 39738
3450	080GL17T37LGP	XFMR FOR POWER LITAI	9965 000 39739
3460	080GL17T37LSGP	XFMR FOR POWER LISHIN	9965 000 39740
3470	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3480	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3490	057G66721	STP10NK70ZFP	9965 000 39743
3500	061G152M10458F	100K OHM 5% 2W	9965 000 36010
3510	061G152M47858F	RST MOFR 0.47OHM -5% 2WS	9965 000 39744
3520	093G60252	SP20150	9965 000 39745
3530	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3540	093G60252	SP20150	9965 000 39745
3550	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3560	056G37961	LD7575PS SOP-8	9965 000 39747
3570	056G60810	0Z9938	9965 000 36059
3580	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3590	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3600	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3610	057G7592	RK7002	9965 000 36033
3620	057G7592	RK7002	9965 000 36033
3630	057G7592	RK7002	9965 000 36033
3640	057G7592	RK7002	9965 000 36033
3650	057G7592	RK7002	9965 000 36033
3660	057G7636	AO4828L	9965 000 39748
3670	057G7636	AO4828L	9965 000 39748
3680	057G76314	AM9945N	9965 000 36100
3690	057G76314	AM9945N	9965 000 36100
3700	061G0805104	100K 0805	9965 000 39749
3710	061G08055600F	RST CHIPR 560 OHM -1% 1/8W	9965 000 39750
3720	061G1206000	0 OHM 1/8W	9965 000 39751
3730	061G1206000	0 OHM 1/8W	9965 000 39751
3740	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3750	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3760	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3770	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3780	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3790	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3800	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3810	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3820	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3830	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3840	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3850	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3860	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3870	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3880	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3890	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3900	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3910	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3920	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3930	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3940	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3950	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3960	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3970	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3980	061L0805184	180K OHM 1/8W	9965 000 39752
3990	061L0805202	CHIP 2KOHM 1/8W	9965 000 36971
4000	061L08052401F	CHIPR 2.4KOHM -1% 1/8W	9965 000 36142
4010	061L0805304	300K OM 1/8W	9965 000 36063
4020	061L08053302F	CHIP 33KOHM 1/8W 1%	9965 000 36975
4030	061L08053601F	CHIP 3.6KOHM 1/8W 1%	9965 000 39753
4040	061L0805393	SMD 39KOHM/0805/ -5% 1/8W	9965 000 39754
4050	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4060	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4070	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4080	061L0805473	CHIPR 47K OHM -5% 1/8W	9965 000 39756
4090	061L08055100F	CHIP 510 OHM 1% 1/8W	9965 000 39757
4100	061L0805513	CHIP 51KOHM 1/8W	9965 000 39758
4110	061L0805751	750 OHM	9965 000 39759
4120	061L0805751	750 OHM	9965 000 39759
4130	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4140	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4150	061L0805754	CHIPR 750K OHM -5% 1/8W	9965 000 39760
4160	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4170	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4180	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4190	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4200	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4210	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4220	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4230	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4240	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4250	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4260	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4270	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4280	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4290	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4300	061L1206102	CHIP 1K OHM 5% 1/8W	9965 000 39762
4310	061L1206103	CHIP 10KOHM 5% 1/4W	9965 000 36016
4320	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4330	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4340	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4350	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4360	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4370	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4380	061L1206339	CHIP 3.3OHM 1/4W	9965 000 39765
4390	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4400	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4410	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4420	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4430	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4440	061L1206472	CHIP 4.7KOHM 5% 1/4W	9965 000 36986
4450	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4460	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4470	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4480	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4490	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4500	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4510	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4520	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4530	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4540	065G2K1521TGP	CERAMIC CAP	9965 000 39780

Different Parts List

Diversity of 190CW7CB/69(CMO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description	Philips 12NC
10	089G728GAA901	SIGNAL CABLE	9965 000 39711
20	089G179E30C7	FFC CABLE 30P 205MM P1.0	9965 000 39712
30	089G410A18NLSB	POWER CORD 1.8M PY8B1V6CC0A-060	9965 000 41057
40	705GZ-000036	MAIN FRAME ASSY CMO	9965 000 41537
60	705GZV34003	FRONT BEZEL ASSY	9965 000 43715
110	705GZV34004	REAR COVER ASSY	9965 000 43716
130	750GLM90A1211N	PANEL LCD 19" A1-L02 CMO	9965 000 39713
210	Z34G0022WV1B	STAND TOP	9965 000 43718
220	Z34G0023WV1B	STAND BOTTOM	9965 000 43719
230	A37G00071	HINGE	9965 000 39720
240	Z34G0024WV1B	BASE	9965 000 43717
250	CBPC6MNNPHSB4	CONVERSATION BOARD	9965 000 43523
2830	KEPC6AP1	KEY BOARD	9965 000 39722
3000	PWPC942MR1P	POWER BOARD ASSY	9965 000 39723
90	A34G0051VB1T	REAR COVER	9965 000 39717
60	A15G00322	MAIN FRAME CMO	9965 000 41538
90	Z33G0019WV1T	KEY BUTTON	9965 000 43720
100	Z34G0020WVA2T	FRONT BEZEL PHILIPS	9965 000 43721
1	705GZ9K056001	CPU ASSY	9965 000 43518
2840	081G121GGP	LED GP32032C-R03-ZY-HB	9965 000 39727
2850	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2860	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2870	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2880	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2890	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2900	061L0603101	CHIPR 100 OHM -5% 1/16W	9965 000 35969
2910	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2920	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2930	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2940	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2950	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2960	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2970	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2980	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2990	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
3010	063G10747410S	FILM CAPACITOR	9965 000 37794
3020	067G215D4714K	ED 470UF 25V	9965 000 36007
3030	067G215D4714K	ED 470UF 25V	9965 000 36007
3040	067G215D4714K	ED 470UF 25V	9965 000 36007
3050	067G215D4714K	ED 470UF 25V	9965 000 36007
3060	067G215D4714K	ED 470UF 25V	9965 000 36007
3070	067G215D4714K	ED 470UF 25V	9965 000 36007
3080	067G215D4714K	ED 470UF 25V	9965 000 36007
3090	067G215D4714K	ED 470UF 25V	9965 000 36007
3100	067G215L4714H	470UF 25V	9965 000 39732
3110	067G215L4714H	470UF 25V	9965 000 39732
3120	067G215L4714H	470UF 25V	9965 000 39732
3130	067G215L4714H	470UF 25V	9965 000 39732
3140	067G215L4714H	470UF 25V	9965 000 39732
3150	067G215L4714H	470UF 25V	9965 000 39732
3160	067G215L4714H	470UF 25V	9965 000 39732
3170	067G215L4714H	470UF 25V	9965 000 39732
3180	067G215S10115H	100UF 450V 18*36 105 BY HERMEI	9965 000 36051
3190	067G215S10115K	100UF 450V	9965 000 36086
3200	084G557	FUSE 3.15A 250V MET3.15	9965 000 39741
3210	093G5046028	BRIDGE DIODE KBP208G LITEON	9965 000 39742
3220	056G1393A	PC123Y22FZOF	9965 000 36055
3230	061G58080WT	8 OHM NCT	9965 000 39728
3240	065G3J2206EM	22PF 3KV	9965 000 43644
3250	065G3J2206EM	22PF 3KV	9965 000 43644
3260	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3270	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3280	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3290	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3300	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3310	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3320	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3330	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3340	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3350	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3360	065G306M2222BM	2200PF -20% 250VAC	9965 000 39731
3370	073G17465H	LINE FILTER	9965 000 36088
3380	073G17465LS	LINE FILTER BY LISHIN	9965 000 36025
3390	073G25391T	CHOKE	9965 000 39734
3400	073G25391T	CHOKE	9965 000 39734
3410	073G25391LS	CHOKE BY LI SHIN	9965 000 39735
3420	073G25391LSGP	CHOKE BY LI SHIN	9965 000 39736
3430	073L17453LGGP	CHOKE	9965 000 39737
3440	073L17453LSGGP	CHOKE BY LISHIN	9965 000 39738
3450	080GL17T37LGP	XFMR FOR POWER LITAI	9965 000 39739
3460	080GL17T37LSGP	XFMR FOR POWER LISHIN	9965 000 39740
3470	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3480	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3490	057G66721	STP10NK70ZFP	9965 000 39743
3500	061G152M10458F	100K OHM 5% 2W	9965 000 36010
3510	061G152M47858F	RST MOFR 0.47OHM -5% 2WS	9965 000 39744
3520	093G60252	SP20150	9965 000 39745
3530	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3540	093G60252	SP20150	9965 000 39745
3550	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3560	056G37961	LD7575PS SOP-8	9965 000 39747
3570	056G60810	0Z9938	9965 000 36059
3580	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3590	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3600	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3610	057G7592	RK7002	9965 000 36033
3620	057G7592	RK7002	9965 000 36033
3630	057G7592	RK7002	9965 000 36033
3640	057G7592	RK7002	9965 000 36033
3650	057G7592	RK7002	9965 000 36033
3660	057G7636	AO4828L	9965 000 39748
3670	057G7636	AO4828L	9965 000 39748
3680	057G76314	AM9945N	9965 000 36100
3690	057G76314	AM9945N	9965 000 36100
3700	061G0805104	100K 0805	9965 000 39749
3710	061G08055600F	RST CHIPR 560 OHM -1% 1/8W	9965 000 39750
3720	061G1206000	0 OHM 1/8W	9965 000 39751
3730	061G1206000	0 OHM 1/8W	9965 000 39751
3740	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3750	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3760	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3770	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3780	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3790	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3800	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3810	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3820	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3830	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3840	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3850	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3860	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3870	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3880	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3890	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3900	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3910	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3920	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3930	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3940	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3950	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3960	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3970	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3980	061L0805184	180K OHM 1/8W	9965 000 39752
3990	061L0805202	CHIP 2KOHM 1/8W	9965 000 36971
4000	061L08052401F	CHIPR 2.4KOHM -1% 1/8W	9965 000 36142
4010	061L0805304	300K OM 1/8W	9965 000 36063
4020	061L08053302F	CHIP 33KOHM 1/8W 1%	9965 000 36975
4030	061L08053601F	CHIP 3.6KOHM 1/8W 1%	9965 000 39753
4040	061L0805393	SMD 39KOHM/0805/ -5% 1/8W	9965 000 39754
4050	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4060	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4070	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4080	061L0805473	CHIPR 47K OHM -5% 1/8W	9965 000 39756
4090	061L08055100F	CHIP 510 OHM 1% 1/8W	9965 000 39757
4100	061L0805513	CHIP 51KOHM 1/8W	9965 000 39758
4110	061L0805751	750 OHM	9965 000 39759
4120	061L0805751	750 OHM	9965 000 39759
4130	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4140	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4150	061L0805754	CHIPR 750K OHM -5% 1/8W	9965 000 39760
4160	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4170	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4180	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4190	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4200	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4210	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4220	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4230	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4240	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4250	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4260	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4270	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4280	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4290	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4300	061L1206102	CHIP 1K OHM 5% 1/8W	9965 000 39762
4310	061L1206103	CHIP 10KOHM 5% 1/4W	9965 000 36016
4320	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4330	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4340	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4350	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4360	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4370	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4380	061L1206339	CHIP 3.3OHM 1/4W	9965 000 39765
4390	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4400	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4410	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4420	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4430	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4440	061L1206472	CHIP 4.7KOHM 5% 1/4W	9965 000 36986
4450	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4460	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4470	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024

4480	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4490	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4500	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4510	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4520	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4530	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4540	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4550	065G080510231	1000PF 50V NPO	9965 000 36991
4560	065G080510231	1000PF 50V NPO	9965 000 36991
4570	065G080510231	1000PF 50V NPO	9965 000 36991
4580	065G080510231	1000PF 50V NPO	9965 000 36991
4590	065G080510231	1000PF 50V NPO	9965 000 36991
4600	065G080510332	10NF/50V/0805/X7R	9965 000 39768
4610	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4620	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4630	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4640	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4650	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4660	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4670	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4680	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4690	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4700	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4710	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4720	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4730	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4740	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4750	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4760	065G080522131	220PF 50V NPO	9965 000 39769
4770	065G080522332	CHIP 0.022UF 50V X7R 0805	9965 000 39770
4780	065G080522422	CHIP CAP 0.22 UF 25V X7R	9965 000 39771
4790	065G080533232	3200PF/25V/X7R	9965 000 39772
4800	065G080533232	3200PF/25V/X7R	9965 000 39772
4810	065G080547131	CHIP 470PF 50V NPO	9965 000 36044
4820	065G080547131	CHIP 470PF 50V NPO	9965 000 36044
4830	065G080547131	CHIP 470PF 50V NPO	9965 000 36044
4840	065G080547131	CHIP 470PF 50V NPO	9965 000 36044
4850	065G080547332	CHIP 0.047UF 50V X7R	9965 000 36045
4860	065G120610272	CHIP 1000PF 500V X7R	9965 000 39773
4870	065G120610272	CHIP 1000PF 500V X7R	9965 000 39773
4880	065G120610272	CHIP 1000PF 500V X7R	9965 000 39773
4890	065G120610272	CHIP 1000PF 500V X7R	9965 000 39773
4900	065G120610432	CHIP 0.1UF 25V X7R 1206	9965 000 39774
4930	067G215Y1007KT	LOW ESR EC 10UF 50V EG1H100MPN05	9965 000 43652
4940	067G215Y1007KT	LOW ESR EC 10UF 50V EG1H100MPN05	9965 000 43652
4950	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
4960	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
4970	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
4980	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
4990	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
5000	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
5010	093G6432V	LL4148-GS08	9965 000 39775
5030	093G39S12T	RLZ20B LLDS	9965 000 39776
5050	093G39S24T	RLZ 5.6B LLDS	9965 000 36079
5060	093G39S38T	PTZ 9.1B	9965 000 36080
5070	093G39S40T	RLZ 13B LLDS	9965 000 39777
5080	093G39S44T	RLZ18B LLDS	9965 000 39778
5090	093G64S511SEM	IN4148W	9965 000 39779
5140	061G212Y625KT	MGFR 6.2MOHM -5% 1/2W	9965 000 36083
5160	071G5529GP	FERRITE BEAD	9965 000 39733
5170	093G6026T52T	RECTIFIER DIODE FR107	9965 000 36030
5180	093G6038T52T	FR103	9965 000 36095
5190	056G15810T	AZ431AZ-AE1	9965 000 36101
5200	056G15812	KIA431A-AT/P TO-92	9965 000 36054
5210	S73G17465VW	TRANSFORMERS	9965 000 39227
5220	S80GL19T8V1	TRANSFORMER ASS'Y	9965 000 38142

Diversity of 190CW7CB/93(CMO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description	Philips 12NC
10	089G728GAA901	SIGNAL CABLE	9965 000 39711
20	089G179E30C7	FFC CABLE 30P 205MM P1.0	9965 000 39712
30	089G414A18NLSC	MAINSCORD CCEE 10A 1M8 DET BK	9965 000 41562
40	705GZ-000036	MAIN FRAME ASSY CMO	9965 000 41537
60	705GZV34003	FRONT BEZEL ASSY	9965 000 43715
110	705GZV34004	REAR COVER ASSY	9965 000 43716
130	750GLM90A1211N	PANEL LCD 19" A1-L02 CMO	9965 000 39713
200	Z34G0022WV1B	STAND TOP	9965 000 43718
210	A37G00071	HINGE	9965 000 39720
220	Z34G0023WV1B	STAND BOTTOM	9965 000 43719
230	Z34G0024WV1B	BASE	9965 000 43717
250	CBPC6MNNPHSB6	CONVERSATION BOARD	9965 000 43525
2840	KEPC6AP1	KEY BOARD	9965 000 39722
3010	PWPC942MR1P	POWER BOARD ASSY	9965 000 39723
60	A15G00322	MAIN FRAME CMO	9965 000 41538
90	Z33G0019WV1T	KEY BUTTON	9965 000 43720
100	Z34G0020WVA2T	FRONT BEZEL PHILIPS	9965 000 43721
1	705GZ9K056004	CPU ASSY	9965 000 43520
2840	081G121GGP	LED GP32032C-R03-ZY-HB	9965 000 39727
2850	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2860	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2870	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2880	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2890	077G6001GCJ	TACT SWITCH TSPB-2 -NP	9965 000 36000
2900	061L0603101	CHIPR 100 OHM -5% 1/16W	9965 000 35969
2910	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2920	061L0603102	CHIPR 1K OHM -5% 1/16W	9965 000 35970
2930	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2940	061L0603103	CHIPR 10K OHM -5% 1/16W	9965 000 35971
2950	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2960	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2970	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2980	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
2990	065G060310332	0.01UF -10% 50V X7R	9965 000 36004
3010	063G10747410S	FILM CAPACITOR	9965 000 37794
3020	067G215D4714K	ED 470UF 25V	9965 000 36007
3030	067G215D4714K	ED 470UF 25V	9965 000 36007
3040	067G215D4714K	ED 470UF 25V	9965 000 36007
3050	067G215D4714K	ED 470UF 25V	9965 000 36007
3060	067G215D4714K	ED 470UF 25V	9965 000 36007
3070	067G215D4714K	ED 470UF 25V	9965 000 36007
3080	067G215D4714K	ED 470UF 25V	9965 000 36007
3090	067G215D4714K	ED 470UF 25V	9965 000 36007
3100	067G215L4714H	470UF 25V	9965 000 39732
3110	067G215L4714H	470UF 25V	9965 000 39732
3120	067G215L4714H	470UF 25V	9965 000 39732
3130	067G215L4714H	470UF 25V	9965 000 39732
3140	067G215L4714H	470UF 25V	9965 000 39732
3150	067G215L4714H	470UF 25V	9965 000 39732
3160	067G215L4714H	470UF 25V	9965 000 39732
3170	067G215L4714H	470UF 25V	9965 000 39732
3180	067G215S10115H	100UF 450V 18*36 105 BY HERMEI	9965 000 36051
3190	067G215S10115K	100UF 450V	9965 000 36086
3200	084G557	FUSE 3.15A 250V MET3.15	9965 000 39741
3210	093G5046028	BRIDGE DIODE KBP208G LITEON	9965 000 39742
3220	056G1393A	PC123Y22FZOF	9965 000 36055
3230	061G58080WT	8 OHM NCT	9965 000 39728
3240	065G3J2206EM	22PF 3KV	9965 000 43644
3250	065G3J2206EM	22PF 3KV	9965 000 43644
3260	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3270	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3280	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3290	065G3J2206ET	22PF 5% SL 3KV TDK	9965 000 39729
3300	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3310	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3320	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3330	065G3J5096ET	5PF 5% SL 3KV	9965 000 36941
3340	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3350	065G306M1022BM	Y1.CAP.001UF 250VAC MURATA	9965 000 39730
3360	065G306M2222BM	2200PF -20% 250VAC	9965 000 39731
3370	073G17465H	LINE FILTER	9965 000 36088
3380	073G17465LS	LINE FILTER BY LISHIN	9965 000 36025
3390	073G25391T	CHOKE	9965 000 39734
3400	073G25391T	CHOKE	9965 000 39734
3410	073G25391LS	CHOKE BY LI SHIN	9965 000 39735
3420	073G25391LSGP	CHOKE BY LI SHIN	9965 000 39736
3430	073L17453LGGP	CHOKE	9965 000 39737
3440	073L17453LSGGP	CHOKE BY LISHIN	9965 000 39738
3450	080GL17T37LGP	XFMR FOR POWER LITAI	9965 000 39739
3460	080GL17T37LSGP	XFMR FOR POWER LISHIN	9965 000 39740
3470	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3480	080GL19T8DN1	X'FMR DARFONTK.2006M.101	9965 000 36093
3490	057G66721	STP10NK70ZFP	9965 000 39743
3500	061G152M10458F	100K OHM 5% 2W	9965 000 36010
3510	061G152M47858F	RST MOFR 0.47OHM -5% 2WS	9965 000 39744
3520	093G60252	SP20150	9965 000 39745
3530	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3540	093G60252	SP20150	9965 000 39745
3550	093G60281	DIODE SP20150R ITO-220 SECOS	9965 000 39746
3560	056G37961	LD7575PS SOP-8	9965 000 39747
3570	056G60810	0Z9938	9965 000 36059
3580	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3590	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3600	057G4174	PMBS3904/PHILIPS-SMT(04)	9965 000 35966
3610	057G7592	RK7002	9965 000 36033
3620	057G7592	RK7002	9965 000 36033
3630	057G7592	RK7002	9965 000 36033
3640	057G7592	RK7002	9965 000 36033
3650	057G7592	RK7002	9965 000 36033
3660	057G7636	AO4828L	9965 000 39748
3670	057G7636	AO4828L	9965 000 39748
3680	057G76314	AM9945N	9965 000 36100
3690	057G76314	AM9945N	9965 000 36100
3700	061G0805104	100K 0805	9965 000 39749
3710	061G08055600F	RST CHIPR 560 OHM -1% 1/8W	9965 000 39750
3720	061G1206000	0 OHM 1/8W	9965 000 39751
3730	061G1206000	0 OHM 1/8W	9965 000 39751
3740	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3750	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3760	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3770	061L0805000	CHIPR 0OHM -5% 1/10W	9965 000 35984
3780	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3790	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3800	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3810	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3820	061L0805102	CHIPR 1K OHM -5% 1/10W	9965 000 36963
3830	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3840	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964

Different Parts List

3850	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3860	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3870	061L0805103	CHIPR 10K OHM -5% 1/10W	9965 000 36964
3880	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3890	061L0805104	CHIPR 100K OHM -5% 1/10W	9965 000 36965
3900	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3910	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3920	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3930	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3940	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3950	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3960	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3970	061L0805105	CHIP 1M OHM 5% 1/8W	9965 000 36013
3980	061L0805184	180K OHM 1/8W	9965 000 39752
3990	061L0805202	CHIP 2KOHM 1/8W	9965 000 36971
4000	061L08052401F	CHIPR 2.4KOHM -1% 1/8W	9965 000 36142
4010	061L0805304	300K OM 1/8W	9965 000 36063
4020	061L08053302F	CHIP 33KOHM 1/8W 1%	9965 000 36975
4030	061L08053601F	CHIP 3.6KOHM 1/8W 1%	9965 000 39753
4040	061L0805393	SMD 39KOHM/0805/ -5% 1/8W	9965 000 39754
4050	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4060	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4070	061L0805472	CHIRP 4.7K OHM -5% 1/10W	9965 000 39755
4080	061L0805473	CHIPR 47K OHM -5% 1/8W	9965 000 39756
4090	061L08055100F	CHIP 510 OHM 1% 1/8W	9965 000 39757
4100	061L0805513	CHIP 51KOHM 1/8W	9965 000 39758
4110	061L0805751	750 OHM	9965 000 39759
4120	061L0805751	750 OHM	9965 000 39759
4130	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4140	061L0805752	CHIP 7.5K OHM 1/10W	9965 000 36981
4150	061L0805754	CHIPR 750K OHM -5% 1/8W	9965 000 39760
4160	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4170	061L0805823	CHIP 82KOHM 1/8W	9965 000 39761
4180	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4190	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4200	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4210	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4220	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4230	061L1206000	CHIPR 0 OHM -5% 1/8W	9965 000 36067
4240	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4250	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4260	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4270	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4280	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4290	061L1206101	CHIP 100 OHM 5% 1/8W	9965 000 36022
4300	061L1206102	CHIP 1K OHM 5% 1/8W	9965 000 39762
4310	061L1206103	CHIP 10KOHM 5% 1/4W	9965 000 36016
4320	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4330	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4340	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4350	061L1206150	CHIP 15 OHM 5% 1206 1/4W	9965 000 39763
4360	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4370	061L1206220	CHIP 22OHM 5% 8W	9965 000 39764
4380	061L1206339	CHIP 3.3OHM 1/4W	9965 000 39765
4390	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4400	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4410	061L1206392	RST CHIPR 3.9KOHM -5% 1/4W	9965 000 39766
4420	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4430	061L1206471	CHIPR 470 OHM -5% 1/8W	9965 000 36070
4440	061L1206472	CHIP 4.7KOHM 5% 1/4W	9965 000 36986
4450	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4460	061L1206519	CHIPR 5.1OHM -5% 1/4W	9965 000 39767
4470	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4480	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4490	061L1206684	CHIPR 680K OHM -5% 1/8W	9965 000 36024
4500	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4510	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4520	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4530	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4540	065G2K1521TGP	CERAMIC CAP	9965 000 39780
4550	065G080510231	1000PF 50V NPO	9965 000 36991
4560	065G080510231	1000PF 50V NPO	9965 000 36991
4570	065G080510231	1000PF 50V NPO	9965 000 36991
4580	065G080510231	1000PF 50V NPO	9965 000 36991
4590	065G080510231	1000PF 50V NPO	9965 000 36991
4600	065G080510332	10NF/50V/0805/X7R	9965 000 39768
4610	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4620	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4630	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4640	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4650	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4660	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4670	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4680	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4690	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4700	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4710	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4720	065G080510432	CHIP 0.1U 50V X7R	9965 000 36041
4730	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4740	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4750	065G080510522	CHIP 1UF 25V X7R 0805	9965 000 36073
4760	065G080522131	220PF 50V NPO	9965 000 39769
4770	065G080522332	CHIP 0.022UF 50V X7R 0805	9965 000 39770
4780	065G080522422	CHIP CAP 0.22 UF 25V X7R	9965 000 39771
4790	065G080533232	3200PF/25V/X7R	9965 000 39772
5090	093G64S511SEM	IN4148W	9965 000 39779
5140	061G212Y625KT	MGFR 6.2MOHM -5% 1/2W	9965 000 36083
5160	071G5529GP	FERRITE BEAD	9965 000 39733
5170	093G6026T52T	RECTIFIER DIODE FR107	9965 000 36030
5180	093G6038T52T	FR103	9965 000 36095
5190	056G15810T	AZ431AZ-AE1	9965 000 36101
5200	056G15812	KIA431A-AT/P TO-92	9965 000 36054
5210	S73G17465VW	TRANSFORMERS	9965 000 39227
5220	S80GL19T8V1	TRANSFORMER ASS'Y	9965 000 38142
	067G2151007NT		9965 000 39781
	067G2151007NT		9965 000 39781

Diversity of 190CW7CB/00(CMO) compared with 190CW7CS/00(CMO)

Item	TPV 18 nc	Description	Philips 12NC
	705GZ-000036	Main Frame ASSY CMO	9965 000 41537
	A15G00322	Main Frame CMO	9965 000 41538
	705GZV34003	Front Bezel Assy	9965 000 43715
	Z33G0019WV1T	Key button	9965 000 43720
	Z34G0020WVA2T	Front Bezel Philips	9965 000 43721
	705GZV34004	Rear Cover Assy	9965 000 43716
	Z34G0021WV1T	Rear Cover	
	Q40G19E81316C	RATING LABEL	
	Q44G90288131C	craton	
	Q44G90341	EPS(L)	
	Q44G90342	EPS(R)	
	Q45G8860614	PE BAG	
	Q45G8860949	EPE COVER	
	Q70G90028131B	E-D.F.U	
	Z34G0022WV1B	Stand Top	9965 000 43718
	Z34G0023WV1B	Stand Bottom	9965 000 43719
	Z34G0024WV1B	BASE	9965 000 43717
C707	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C708	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C709	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C710	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C711	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C712	067G3151014K	EC 100uF 25V EG1E101MNN0511PU	
C431	067G3154704K	EC 47uF 25V EG1E470MNN0511PU	
C432	067G3154797K	EC 4.7uF 50V EG1H4R7MNN0511PU	
C426	067G215S4713K	EC 470UF 16V	
U701	056G56321	AP1084K33LA	
U403	056G113324	AT24C16AN-10SU-2.7	
FB407	071G56D102M	CHIP HEAD 1000OHM	
FB704	071G56K121M	CHIP BEAD	
FB703	071G56K121M	CHIP BEAD	
FB702	071G56K121M	CHIP BEAD	
FB707	071G56K121M	CHIP BEAD	
FB414	071G56K121M	CHIP BEAD	
FB413	071G56K121M	CHIP BEAD	
FB412	071G56K121M	CHIP BEAD	
FB411	071G56K121M	CHIP BEAD	
FB410	071G56K121M	CHIP BEAD	
FB408	071G56K121M	CHIP BEAD	
FB420	071G59B121	TB160808B	
FB419	071G59B121	TB160808B	
FB418	071G59B121	TB160808B	
FB417	071G59B121	TB160808B	
FB416	071G59B121	TB160808B	
FB415	071G59B121	TB160808B	
FB404	071G59B300M	CHIP BEAD 30 OHM	
FB403	071G59B300M	CHIP BEAD 30 OHM	
FB401	071G59B300M	CHIP BEAD 30 OHM	
U401	705GZ9K056002	CPU ASSY	9965 000 43516
	056G562117	NT68663	9965 000 37779
	Z40G90008132A	cpu label	
	Z40G90008132AS	CPU software	
C816	065G3J2206EM	CAP FOR HIGHT VOLTAGE	9965 000 43644
C841	065G3J2206EM	CAP FOR HIGHT VOLTAGE	9965 000 43644
C906	067G215Y1007KT	KY50VB10M-TP5 5*11.5	9965 000 43652
C907	067G215Y1007KT	KY50VB10M-TP5 5*11.5	9965 000 43652
	093G6433	DIO SIG SM BAV99 (PHSE)R	9965 000 35994
	093G6432V	LL4148-GSO8	9965 000 39775
	093G6432V	LL4148-GSO8	9965 000 39775
	093G39S12T	RLZ20B LLDS	9965 000 39776
	093G39S24T	RLZ 5.6B LLDS	9965 000 36079
	093G39S24T	RLZ 5.6B LLDS	9965 000 36079
	093G39S38T	PTZ 9.1B	9965 000 36080
	093G39S40T	RLZ 13B LLDS	9965 000 39777
	093G39S44T	RLZ18B LLDS	9965 000 39778
	093G64S511SEM	IN4148W	9965 000 39779
	093G64S511SEM	IN4148W	9965 000 39779
	093G64S511SEM	IN4148W	9965 000 39779
	093G64S511SEM	IN4148W	9965 000 39779
	093G64S511SEM	IN4148W	9965 000 39779
	061G212Y625KT	MGFR 6.2MOHM +-5% 1/2W	9965 000 36083
	061G212Y625KT	MGFR 6.2MOHM +-5% 1/2W	9965 000 36083
	071G5529GP	FERRITE BEAD	9965 000 39733
	093G6026T52T	RECTIFIER DIODE FR107	9965 000 36030

	093G6038T52T	FR103	9965 000 36095
	056G15810T	IC AZ431AZ-AE1 TO-92 BY AAC	9965 000 36101
	056G15812	KIA431A-AT/P TO-92	9965 000 36054
	S73G17465VW	TRANSFORMATER ASSY	9965 000 39227
	S80GL19T8V1	TRANSFORMATER ASSY	9965 000 38142
	S80GL19T8V1	TRANSFORMATER ASSY	9965 000 38142

Diversity of 190CW7CS/75(CMO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description	Philips 12NC
	Z34G0024WV1B	BASE	9965 000 43717
	Q44G90288131C	craton	
	089G728SAAA00	D-SUB CABLE	9965 000 44523
	Q70G90028131B	E-D.F.U	
	Q45G8860952	EPE COVER	
	Q44G90341	EPS(L)	
	Q44G90342	EPS(R)	
	A33G0067VO1T	Key Button	9965 000 39716
	705GZ-000036	Main Frame ASSY CMO	9965 000 41537
	A15G00322	Main Frame CMO	9965 000 41538
	089G412A18NIS1	MAINSCORD AUS/NZ 10A 1M8 BK	9965 000 44230
	089G412A18NLS1	MAINSCORD AUS/NZ 7A5 1M8 BK	9965 000 44524
	Q45G7628B05	PE BAG	
	A33G00601C	Power Lens	9965 000 39714
	Q40G19E81316C	RATING LABEL	
	Z34G0021WV1T	Rear Cover	
	705GZV34004	Rear Cover Assy	9965 000 43716
	089G728GAA901	SIGNAL CABLE	9965 000 39711
	089G728CAA901	SIGNAL CABLE 1.8M	9965 000 44522
	Z34G0023WV1B	Stand Bottom	9965 000 43719
	Z34G0022WV1B	Stand Top	9965 000 43718
	CBPC6MNNPHSB5	MPLCONVERSION BOARD	9965 000 43524
	705GZ9K056003	CPU ASSY	9965 000 43519
	Z40G90008135CS	CPU Software	
CN902	095G80141265	HARNESS 12P-12P 100mm	

Diversity of 190CW7CS/00(LPL) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description
	089G404A18N IS	POWER CORD
	705GZ-000038	Front Bezel ASSY HP CMO
	705GZV15003	Main Frame ASSY- LPL
	095G8014 18 8	HARNESS 18P-12P 180mm
	Z15G0006 1	Main framMain frame - LPL
	705GZV34004	Rear Cover Assy
	Z34G0021 WV 1T	Rear Cover
	750GLG90W1A11N	PANEL LM190WX1-TLA1 LPL
	Q40G 19E81316C	RATING LABEL
	Q44G9028813 1C	craton
	Q44G9034 1	EPS(L)
	Q44G9034 2	EPS(R)
	Q45G 88609 52	EPE COVER
	Q70G9002813 1B	E-D.F.U
	Z34G0023 WV 1B	Stand Bottom
	Z34G0024 WV 1B	BASE
	Z34G0031 WV 1T	Stand Top
	CBPC6GNNPHS	MPLCONVERSION BOARD
C707	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C708	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C709	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C710	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C711	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C712	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C431	067G 315470 4K	EC 47uF 25V EG1E470MNN0511PU 5*11mm
C432	067G 315479 7K	EC 4.7uF 50V EG1H4R7MNN0511PU 5*11mm
C426	067G215S471 3K	EC 470UF 16V
U701	056G 563 21	AP1084K33LA
U403	056G1133 24	AT24C16AN-10SU-2.7
FB407	071G 56D102 M	CHIP HEAD 1000OHM
FB707	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB414	071G 56K121 M	CHIP BEAD
FB413	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD
FB410	071G 56K121 M	CHIP BEAD
FB408	071G 56K121 M	CHIP BEAD
FB420	071G 59B121	TB160808B
FB419	071G 59B121	TB160808B
FB418	071G 59B121	TB160808B
FB417	071G 59B121	TB160808B
FB416	071G 59B121	TB160808B
FB415	071G 59B121	TB160808B
FB404	071G 59B300 M	CHIP BEAD 30 OHM
FB403	071G 59B300 M	CHIP BEAD 30 OHM
FB401	071G 59B300 M	CHIP BEAD 30 OHM
	705GZV56019	CPU ASSY
	100CZ101000031	CPU software
	Z40G900081335A	CPU Label
C816	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
C841	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
R905	061G152M10458F GP	100K OHM 5% 2W
R914	061G152M47858F GP	RST MOFR 0.47OHM +-5% 2WS
C906	067G215Y1007KT	KY50VB10M-TP5 5*11.5
C907	067G215Y1007KT	KY50VB10M-TP5 5*11.5
IC903	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC

Diversity of 190CW7CS/00(AUO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description
	089G 728CAA901	SIGNAL CABLE 1.8M-AUO
	089G 728SAAA00	D-SUB Cable-AUO
	705GZV15005	Main Frame ASSY- AUO
	Z15G0007 1	Main Frame
	705GZV34005	front bezel assy- AUO
	Z34G0027 VOA2T	front bezel
	750GLU90W1012N	PANEL LCD 19" PW01 V00 AUO
	CBPC7ANNPHS	MPLCONVERSION BOARD-AUO
C707	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C708	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C709	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C710	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C711	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C712	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C431	067G 315470 4K	EC 47uF 25V EG1E470MNN0511PU 5*11mm
C432	067G 315479 7K	EC 4.7uF 50V EG1H4R7MNN0511PU 5*11mm
C426	067G215S471 3K	EC 470UF 16V
U701	056G 563 21	AP1084K33LA
U403	056G1133 24	AT24C16AN-10SU-2.7
FB407	071G 56D102 M	CHIP HEAD 1000OHM
FB707	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB414	071G 56K121 M	CHIP BEAD
FB413	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD
FB410	071G 56K121 M	CHIP BEAD
FB408	071G 56K121 M	CHIP BEAD
FB420	071G 59B121	TB160808B
FB419	071G 59B121	TB160808B
FB418	071G 59B121	TB160808B
FB417	071G 59B121	TB160808B
FB416	071G 59B121	TB160808B
FB415	071G 59B121	TB160808B
FB404	071G 59B300 M	CHIP BEAD 30 OHM
FB403	071G 59B300 M	CHIP BEAD 30 OHM
FB401	071G 59B300 M	CHIP BEAD 30 OHM
	705GZV56021	CPU ASSY
	100CZ101000051	CPU software
	Z40G900081353A	CPU Label

Diversity of 190CW7CS/93(LPL) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description
	089G414A18NLSC	MAINSCORD CCEE 10A 1M8 DET BK
	705GZ-000038	Front Bezel ASSY HP CMO
	705GZV15003	Main Frame ASSY LPL
	095G8014 18 8	HARNESS 18P-12P 180mm
	Z15G0006 1	Main framMain frame LPL
	705GZV34004	Rear Cover Assy
	Z34G0021 WV 1T	Rear Cover
	750GLG90W1A11N	PANEL LM190WX1-TLA1 LPL
	Q44G9044A01	EPS(L)
	Q44G9044A02	EPS(R)
	Q45G 88609 52	EPE COVER
	Q70G9002813 1B	E-D.F.U
	Z34G0023 WV 1B	Stand Bottom
	Z34G0024 WV 1B	BASE
	Z34G0031 WV 1T	Stand Top
	Z44G9001813 1B	CARTON
	CBPC7GNNPHSA4	MPLCONVERSION
C707	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C708	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C709	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C710	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C711	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C712	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C431	067G 315470 4K	EC 47uF 25V EG1E470MNN0511PU 5*11mm

Different Parts List

C432	067G 315479 7K	EC 4.7uF 50V EG1H4R7MNN0511PU 5*11mm
C426	067G215S471 3K	EC 470UF 16V
U701	056G 563 21	AP1084K33LA
U403	056G1133 24	AT24C16AN-10SU-2.7
FB407	071G 56D102 M	CHIP HEAD 1000OHM
FB707	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB414	071G 56K121 M	CHIP BEAD
FB413	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD
FB410	071G 56K121 M	CHIP BEAD
FB408	071G 56K121 M	CHIP BEAD
FB420	071G 59B121	TB160808B
FB419	071G 59B121	TB160808B
FB418	071G 59B121	TB160808B
FB417	071G 59B121	TB160808B
FB416	071G 59B121	TB160808B
FB415	071G 59B121	TB160808B
FB404	071G 59B300 M	CHIP BEAD 30 OHM
FB403	071G 59B300 M	CHIP BEAD 30 OHM
FB401	071G 59B300 M	CHIP BEAD 30 OHM
	705GZV56025	CPU ASSY
	100CZ101000091	CPU Software
	Z40G900081347A	CPU Label
C816	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
C841	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
R905	061G152M10458F GP	100K OHM 5% 2W
R914	061G152M47858F GP	RST MOFR 0.47OHM +-5% 2WS
C906	067G215Y1007KT	KY50VB10M-TP5 5*11.5
C907	067G215Y1007KT	KY50VB10M-TP5 5*11.5
IC903	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC

Diversity of 190CW7CS/93(AUO) compared with 190CW7CS/00(CMO)

Item	TPV 18NC	Description
	089G 728CAA901	SIGNAL CABLE 1.8M
	089G 728SAAA00	D-SUB CABLE
	705GZV15005	Main Frame ASSY-AUO
	Z15G0007 1	Main Frame-AUO
	705GZV34005	front bezel assy-AUO
	Z34G0027 VOA2T	front bezel-AUO
	750GLU90W1012N	PANEL LCD 19" PW01 V00 AUO
	CBPC7ANNPHSA2	MPLCONVERSION BOARD
C707	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C708	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C709	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C710	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C711	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C712	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C431	067G 315470 4K	EC 47uF 25V EG1E470MNN0511PU 5*11mm
C432	067G 315479 7K	EC 4.7uF 50V EG1H4R7MNN0511PU 5*11mm
C426	067G215S471 3K	EC 470UF 16V
U701	056G 563 21	AP1084K33LA
U403	056G1133 24	AT24C16AN-10SU-2.7
FB407	071G 56D102 M	CHIP HEAD 1000OHM
FB707	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB414	071G 56K121 M	CHIP BEAD
FB413	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD
FB410	071G 56K121 M	CHIP BEAD
FB408	071G 56K121 M	CHIP BEAD
FB420	071G 59B121	TB160808B
FB419	071G 59B121	TB160808B
FB418	071G 59B121	TB160808B
FB417	071G 59B121	TB160808B
FB416	071G 59B121	TB160808B
FB415	071G 59B121	TB160808B
FB404	071G 59B300 M	CHIP BEAD 30 OHM
FB403	071G 59B300 M	CHIP BEAD 30 OHM
FB401	071G 59B300 M	CHIP BEAD 30 OHM
	705GZV56036	CPU ASSY
	100CZ101000221	CPU software
	Z40G900081355A	CPU Label

Diversity of 190CW7CB/93(LPL) compared with 190CW7CS/00(CMO)

Item	18NC	Description
1060	089G 728CAA901	SIGNAL CABLE 1.8M
1060	089G 728GAA901	SIGNAL CABLE
1060	089G 728HAA550	SIGNAL CABLE D-SUB HONGLIN
1060	089G 728SAAA00	D-SUB CABLE
SZ001	705GZV01025	DFU Assy
SZ004	705GZV15003	Main Frame ASSY LPL
SZ005	095G8014 18 8	HARNESS 18P-12P 180mm
SZ006	705GZV34003	Front Bezel Assy
SZ007	705GZV34004	Rear Cover Assy
SZ008	750GLG90W1A11N	PANEL LM190WX1-TLA1 LPL
SZ009	A37G0007 1	HINGE
SZ010	Q40G 19E81316C	RATING LABEL
SZ011	Q44G9044A01	EPS(L)
SZ012	Q44G9044A02	EPS(R)
SZ013	Q45G 88609 52	EPE COVER
SZ014	Z34G0024 WV 1B	BASE
SZ015	Z44G9001813 1B	CARTON
SZ016	CBPC7GNNPHSA4	MPLCONVERSION
C707	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C708	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C709	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C710	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C711	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C712	067G 315101 4K	EC 100uF 25V EG1E101MNN0511PU 6.3*11mm
C431	067G 315470 4K	EC 47uF 25V EG1E470MNN0511PU 5*11mm
C432	067G 315479 7K	EC 4.7uF 50V EG1H4R7MNN0511PU 5*11mm
C426	067G215S471 3K	EC 470UF 16V
U701	056G 563 21	AP1084K33LA
U403	056G1133 24	AT24C16AN-10SU-2.7
FB407	071G 56D102 M	CHIP HEAD 1000OHM
FB707	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB414	071G 56K121 M	CHIP BEAD
FB413	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD
FB410	071G 56K121 M	CHIP BEAD
FB408	071G 56K121 M	CHIP BEAD
FB420	071G 59B121	TB160808B
FB419	071G 59B121	TB160808B
FB418	071G 59B121	TB160808B
FB417	071G 59B121	TB160808B
FB416	071G 59B121	TB160808B
FB415	071G 59B121	TB160808B
FB404	071G 59B300 M	CHIP BEAD 30 OHM
FB403	071G 59B300 M	CHIP BEAD 30 OHM
FB401	071G 59B300 M	CHIP BEAD 30 OHM
	705GZV56025	CPU ASSY
C816	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
C841	065G 3J2206EM	CAP FOR HIGHT VOLTAGE
R905	061G152M10458F GP	100K OHM 5% 2W
R914	061G152M47858F GP	RST MOFR 0.47OHM +-5% 2WS
C906	067G215Y1007KT	KY50VB10M-TP5 5*11.5
C907	067G215Y1007KT	KY50VB10M-TP5 5*11.5
IC903	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC

Revision List

Manual 3138 106 10544
-First release
-ALL chapters

According to CP SZ00087 , 190CW7 some models are updated some material code number as following.

Model name	Scaler board	CPU assy
190CW7CS/00(CMO)	CBPC6MNNPHA	705GZ9K0 56002
190CW7CS/75(CMO)	CBPC6MNNPHSB5	705GZ9K0 56003
190CW7CB/69(CMO)	CBPC6MNNPHSB4	705GZ9K0 56001
190CW7CB/93(CMO)	CBPC6MNNPHSB6	705GZ9K0 56004
190CW7CS/27(CMO)	CBPC6MNNPHSB8	705GZ9K0 56006
190CW7CS/69(CMO)	CBPC6MNNPHSB4	705GZ9K0 56001
190CW7CS/93(CMO)	CBPC6MNNPHSB6	705GZ9K0 56004
190CW7CS/96(CMO)	CBPC6MNNPHSB7	705GZ9K0 56005

TELEVISION/MONITOR SAFFTY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Safety Checks

After the original service problem has been corrected,a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition,which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barries, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints,solder splashes,sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord).Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout,lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with ans by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbols on the schematic diagrams and/or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug.) Defeating this safety feature may create a potential hazard to the service and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also check all metal control shafts(with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit may be safety operated without danger of electrical shock.

* Broken line

Implosion

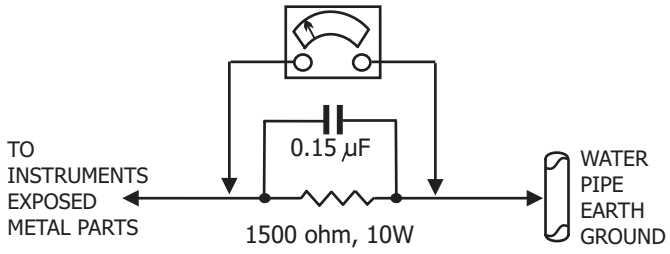
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn,whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

X-radiation

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an x-radiation problem. High voltage should always be kept at the manufacturer's rated value-no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do
6. New picture tubes are specifically designed to withstand higher operathng voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-diation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10w resistor paralleled by a 0.15uf. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed.(Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

Parts Replacement

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

WARNING : Before removing the CRT anode cap, turn the unit **OFF** and short the HIGH VOLTAGE to the CRT DAG ground.
SERVICE NOTE : The CRT DAG is not at chassis ground.